ENGINEERING NEWS-RECORD

TOTAL ENGINEERING DEPARTMENT FORCE
(WILM. SALARY ROLL)
TOTAL FORCE AS OF LAST DAY OF MONTH
UP THRU JULY 31, 1948
REMINGTON R.B.M.
OVER PROJECT ESTIMATE
1947
NEWB
du Pont de Nemours & Co.
Engineering Department

A McGRAW-HILL PUBLICATION

ENGINEERING REPORTS:

OPERATING ECONOMY and flexibility are two advantages of using G-E drives at plant's key points. Aggregates are blended in bin, fed into dryer by elevator, then lifted to top of tower by elevator for screening. Dried aggregate is batched and deposited in mixer, where asphalt from tanks at left is also introduced, then mixed and discharged into trucks.

Asphalt plant electrified for portability, high output

G-E drives simplify operation of 125-ton-an-hour Heldenfels Bros. plant; no repairs needed in two years

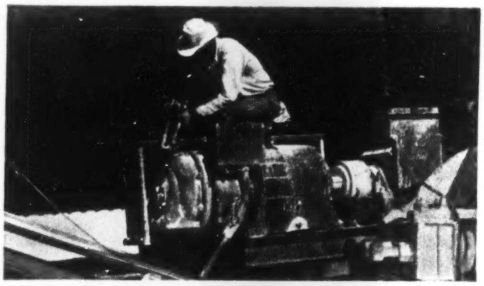
This portable motorized asphalt plant—owned and operated by Heldenfels Bros. Co. of Corpus Christi, Texas, and built by Iowa Manufacturing Co., Cedar Rapids, Iowa—is largest in the area. Key to its 125-ton hourly output—approximately twice as much as non-motorized plants—is simplified operation and portability, made possible by co-ordinated General Electric motors and control. Plant is easily broken down for relocation. And, says Mr. F. W. Heldenfels, "not one cent has been spent for electrical repairs in over two years of continuous operation."

The plant's G-E drives provide operating reliability, plus one-man control. The gear-motors, small and light considering their power, take up minimum space, and are remounted quickly. Over-all plant weight is reduced, flexibility added.

For faster, easier, more efficient operation of *your* construction equipment, electrify with G-E drives and power distribution equipment—backed by G-E engineering help in application, installation and service. General Electric, Schenectady 5, N.Y.

664-29

1878 75 1953
YEARS OF ELECTRICAL PROGRESS

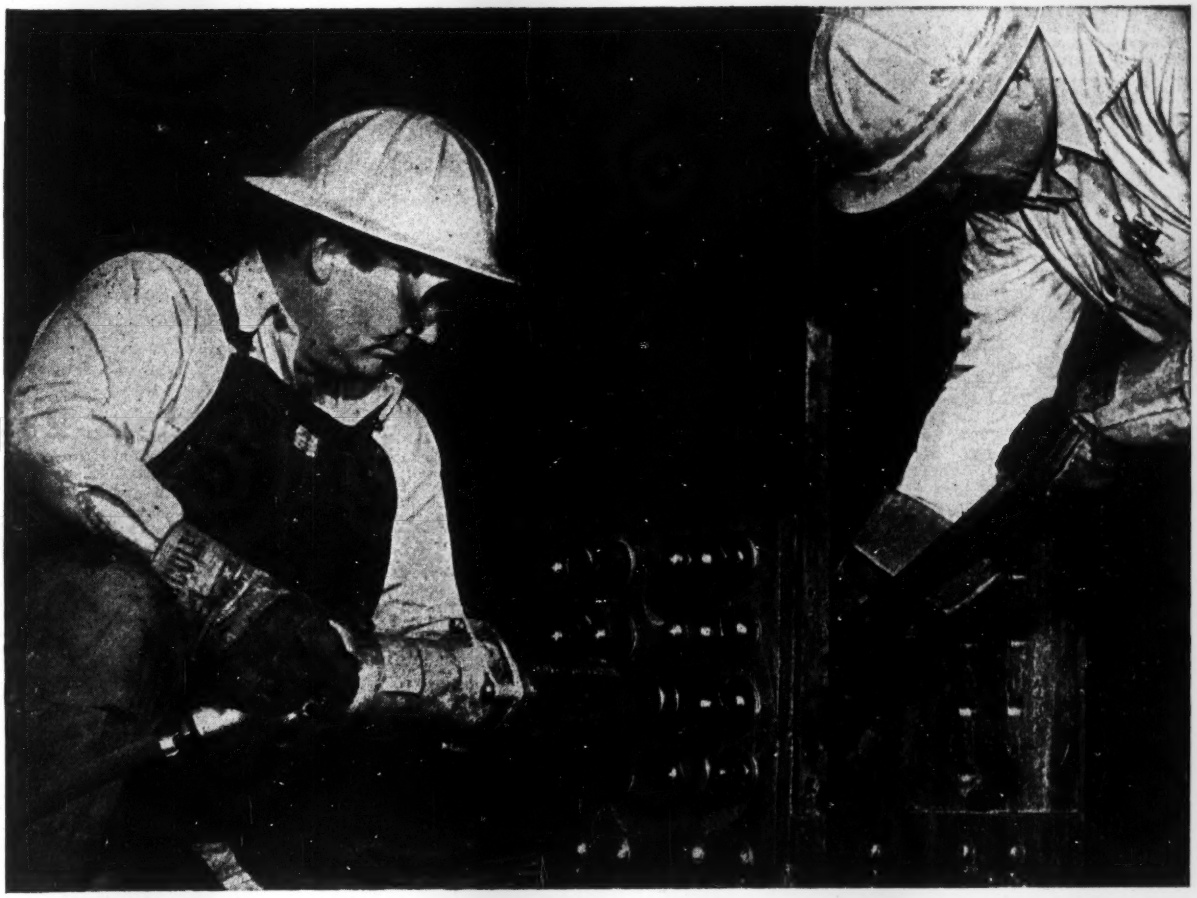


EASY TO RE-LOCATE G-E motors and control, like this 50-hp totally enclosed gear-motor, can be quickly transported by truck from one job to the next.

ONE-MAN CONTROL of plant's production is possible with G-E remote control panel in tower, from which dryer, elevators and conveyors are operated.

Engineered Electrical Systems for Heavy Construction

GENERAL ELECTRIC



Steelwork goes up faster with High-Strength Bolts

To put up steelwork quickly, more and more erectors are using Bethlehem High-Strength Bolts to join the structural members.

Bethlehem High-Strength Bolts save construction time because they can be installed with little effort. They are used with heavy semi-finished nuts, drawn up with power wrenches to make a secure joint.

To assemble Bethlehem High-Strength Bolts, two hardened steel washers are used with each bolt, one under the head, the other under the nut. This permits the development of maximum clamping force to resist slippage without deforming the connected material.

Bethlehem High-Strength Bolts are used in place of field-driven rivets. They are made at our fasteners plant at Lebanon, Pa., and are carefully heat-treated by quenching and tempering, to meet the requirements of ASTM Specification A-325. They are stocked in a wide range of sizes.

A letter or postcard to the nearest Bethlehem sales office will bring you a copy of our informative booklet, "High-Strength Bolting for Structural Joints," by return mail.

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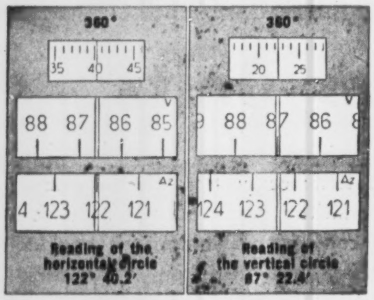

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Robert F. Boger

Publisher

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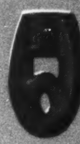
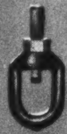
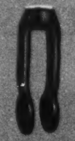
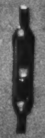
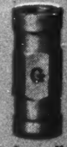
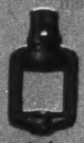

Socket only
for split ring
fig. 110R
⅜ to ⅞ in. rod

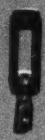

Weldless eye nut
fig. 290
⅜ to 1½ in. rod

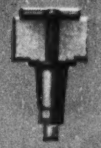

Forged steel clevis
fig. 299
⅜ to 1⅝ in. rod


Turnbuckle
drop forged steel
fig. 230
⅜ to 1½ in. rod

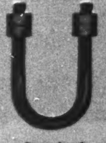

Rod coupling
fig. 136
⅜ to ⅞ in. rod

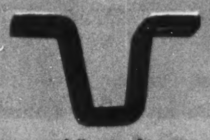

Adj. swivel coupling
fig. 134
⅜ to ⅞ in. rod

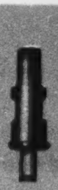

Turnbuckle adjuster
fig. 114

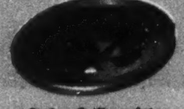

Rod coupling
fig. 208
toggle bolt
fig. 209
⅜ to ⅞ in. rod

U-HANGERS
EXTENSION
CEILING PLATE

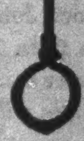

Standard
U bolt
fig. 137

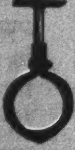

Adj. wrought
U pipe hanger
fig. 252
⅜ to ⅞ in. rod

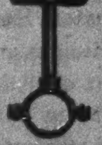

Extension piece
fig. 157
⅜ to ⅞ in. rod

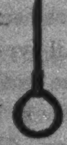

Spring Ceiling plate
fig.133
⅜ to ¾ in. rod

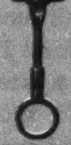
ASSEMBLIES


Split ring
with socket
and coach screw


Split ring,
socket and
ceiling flange


Extension split
ring hanger
fig. 139


Adj. swivel ring
with coach screw
fig. 100


Adj. clip
hanger
fig. 106

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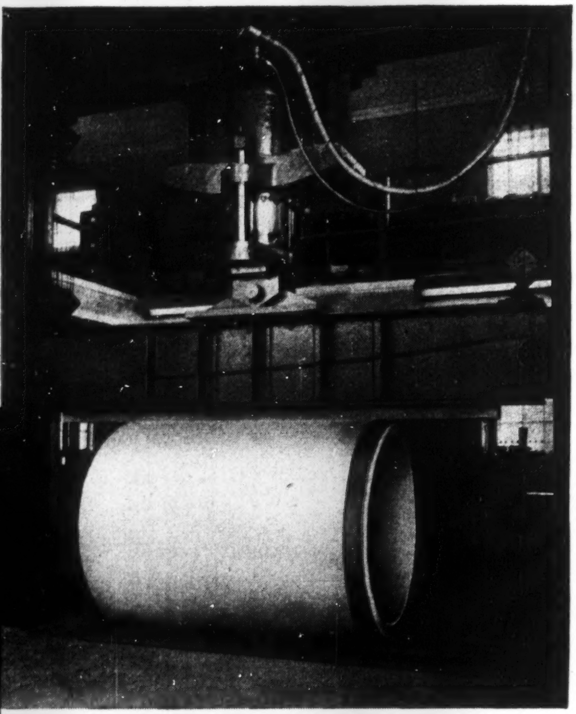

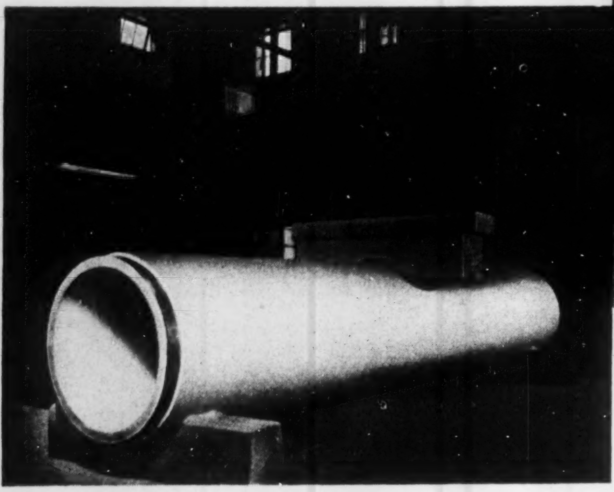

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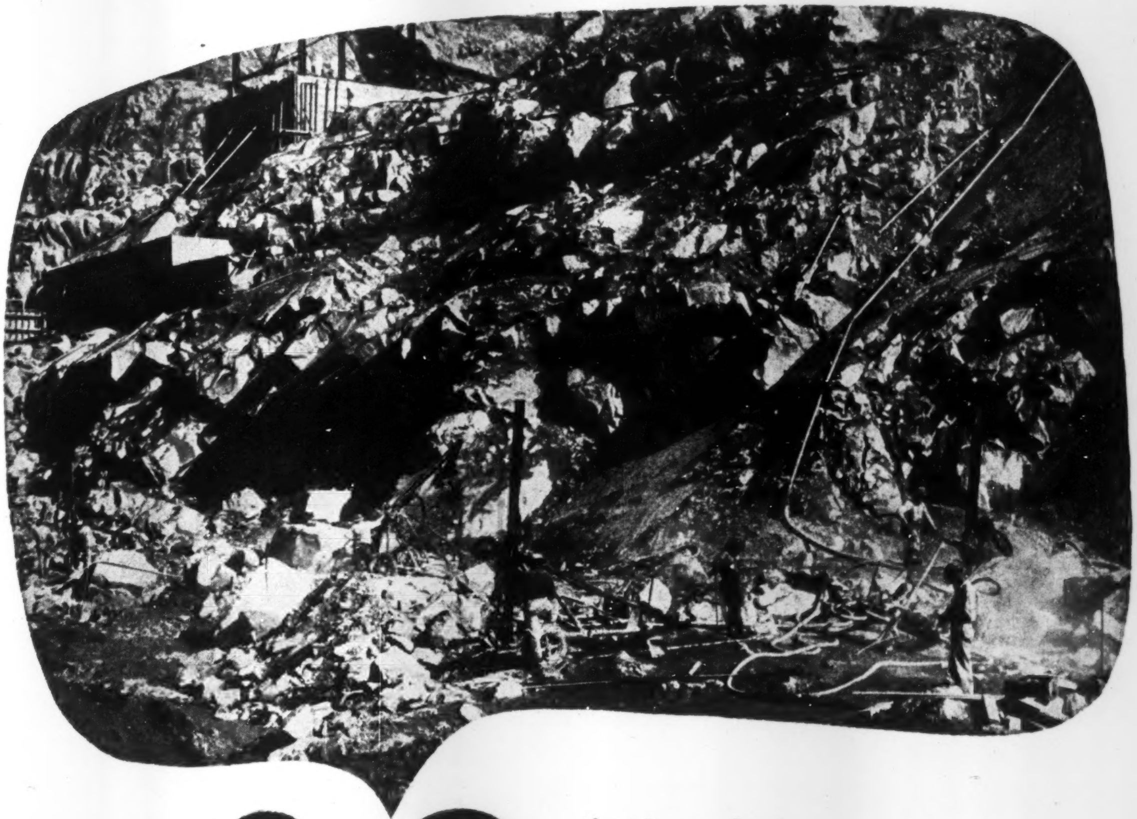

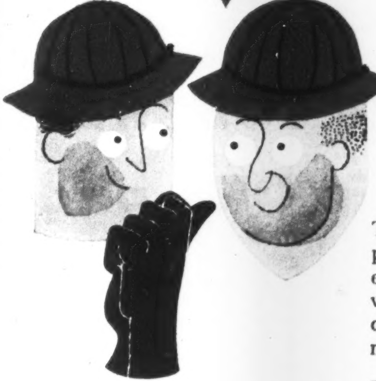

they're using
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at FOLSOM DAM

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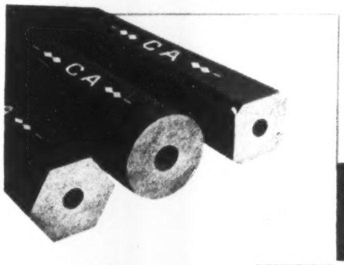

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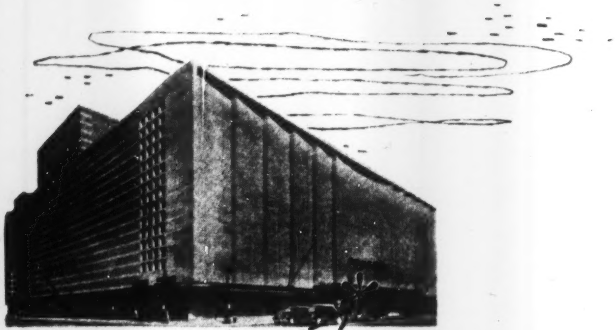

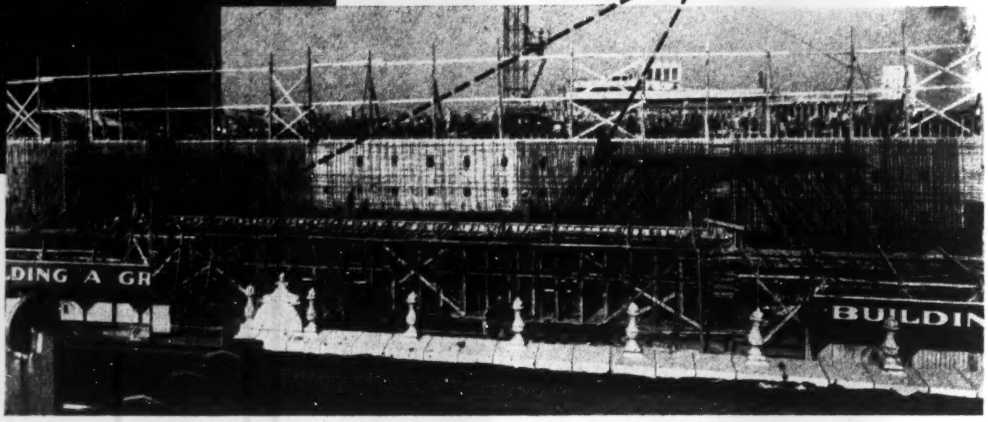

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Structural Engineer: Francis J. Niven

Contractor: Frank Messer & Sons

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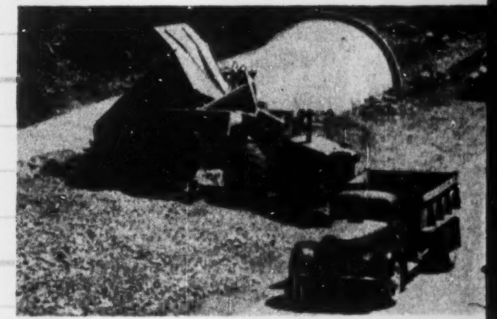
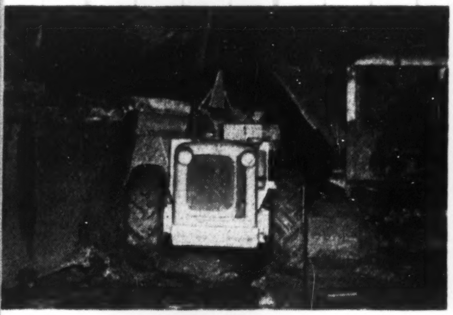
CALIFORNIA MOUNTAIN QUARRY
tried 1 . . . bought 2 "C's"

Monolith Portland Cement Co. tried 1 C Tournarocker . . . liked it so well they bought 2 "C's" for hauling rock from the cramped quarters of their mountain-face limestone quarry. Working at an altitude of 3800', each "C" carries 16 tons per load . . . makes five 400' cycles every 50-min. hour.



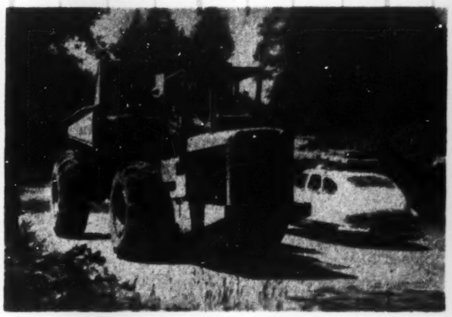
540,000-YD. OREGON HIGHWAY
moves 3600 yds. in 10 hours

On relocation of Highway 99 near Canyon Creek, Carl Halvorson, Portland, moved 3600 pay yds. of rock every 10-hour day with 3 C Tournarockers. Each "C" averaged 16 m.p.h. on 1650' haul. Time of 4.3 minutes for the 3300' cycle included 85 seconds to load 10 pay yds. and 15 seconds to dump.



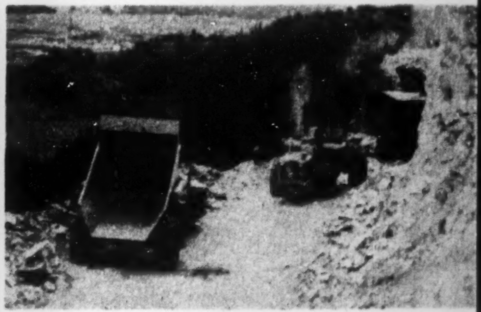
200,000-YD. W. VA. TUNNEL JOB
turns where trucks can't

Bates & Rogers Construction Corp., Chicago, teamed 2 D Tournarockers and 2 trucks to haul muck and shale for B. & O. railroad tunnel near Clarksburg. While trucks needed skid plate to turn inside 31' wide tunnel, "D's" made 90° turns (in 12'4" radius) and easily maneuvered under shovel.



100,000-YD. OREGON HIGHWAY
55 pay yds. hrly. on 8300' cycle

Using 2 "C's", Babler Bros. & Rogers, Portland, licked narrow, congested load and dump areas . . . heavy traffic . . . adverse grades of 5% . . . on their Columbia River Hwy. job. Loaded by 2½-yd. shovel, each "C" got 10 yds. of rock in 5 passes . . . hauled 55 pay yds. hourly over 8600' cycles.



220,000-YD. COLORADO HIGHWAY
licks rain, cramped quarters

To move granite at 8300' on U.S. 280 near Granby Dam, Horner & Switzer worked 3 "C's" through daily rains, along narrow ledges . . . spotting them into loading position in average of 24 sec. Big, 4-wheel air brakes, positive power steer let operators haul safely along narrow ledges at high speeds.

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TO CRACK?

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READER COMMENT

No Squabble

SIR: Page 17 of the June issue of the ENGINEERING NEWS-RECORD contains an editorial referring to the "squabble" between the Grant County Public Utility District at Ephrata and the Corps of Engineers over construction of dams at Priest Rapids on the Columbia River.

I would like to correct the impression that this editorial creates, in that at no time have there been any differences of opinion between the Grant County P. U. D. and the Corps of Engineers concerning the Priest Rapids project—on the contrary, our relationship has at all times been most amicable. In fact, the Corps of Engineers issued a public statement to the effect that they would interpose no objection whatsoever to the construction of the proposed Priest Rapids project on the Columbia River by the P. U. D. provided the work was planned to obtain the optimum benefits from development of that stretch of the Columbia.

E. C. ITSCHNER
Colonel, Corps of Engineers
Division Engineer

Rockfill and earthfill dams

SIR: Several noteworthy articles on rockfill dams have appeared recently. There seems to be quite a bit of confusion as to where on earth dam becomes a rockfill and therefore as to which are the largest or highest earth or rockfill dams.

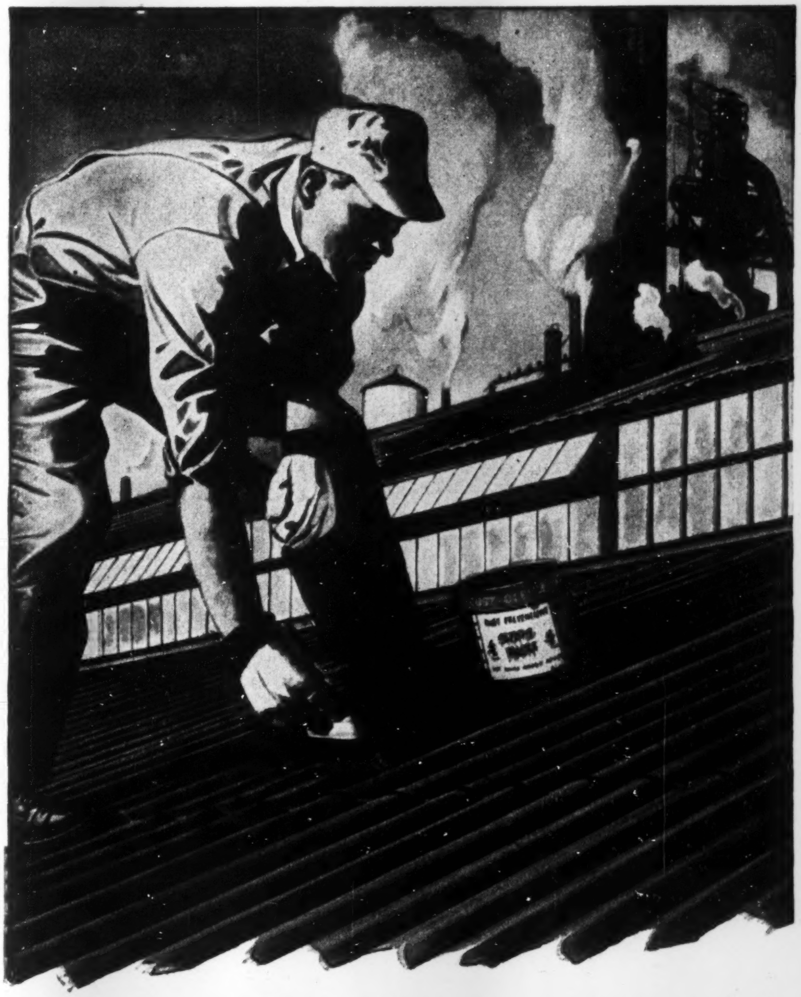
There is no question in regard to the rockfill with a concrete or timber face. The most important of these appear in the accompanying table under Type A.

The second type of rockfill dam has a vertical impervious core. The problem with this type is that as the core increases in width, the structure soon becomes an earth dam with rock shells. This is Type B in the table.

The third important type has an inclined core to take the place of the impervious face. The most important of these are those indicated as Type C in the table.

Other types of rock-earth fill dams should be considered either earth dams, or combination dams, but they are not true rockfills. This category would include San Gabriel No. 1 and Glenville.

Now going into earth dams, you claim (ENR April 16, p. 88) that the record earth dams are Fort Peck and Oahe, in connection with the news of



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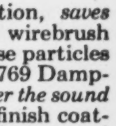

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READER COMMENT

the French planning a 300-ft dam in the Durance River (Serre-Poncon Dam). They may be as to volume of fill, but actually the following earth dams are more than 300 ft high:

Anderson Ranch (U. S.)	456 ft
San Gabriel No. 1 (U. S.)	380 ft
Lazaro Cardenas (Mexico) (El Palmito)	302 ft

Thus there are at least three higher than 300 ft, with the record going to Anderson Ranch.

Name	Country	Type	Height Feet
Ambuklao*	Philippines I.	B	430
Mud Mountain	U. S.	B	425
Salt Springs	U. S.	A	328
Watauga	U. S.	B	318
Kenney	Canada	C	317
Cherry Valley*	U. S.	B	315
Kajakai	Afghanistan	C	300
South Holston	U. S.	B	285
San Gabriel #2	U. S.	A	280
Dix	U. S.	A	275
Shing Mun	China	A	275
Nantahala	U. S.	C	260
Malpaso	Peru	A	255
Cogoti	Chile	A	246
Bear River	U. S.	A	233

* Under Construction.

CARLOS S. OSPINA
Consulting Engineer
Bogota, Colombia

[EDITOR'S NOTE—San Gabriel Dam No. 1 is generally classed as a rockfill structure, not as an earthfill as Mr. Ospina classifies it. Concerning Fort Peck and Oahe dams, our statement was misleading. The record they hold is for volume, not height.]

CALENDAR

Joint meeting International Association for Hydraulic Research and Hydraulics Division of the American Society of Civil Engineers, University of Minnesota, Minneapolis, Sept. 1-4.

American Concrete Pipe Association, annual short course school of instruction, Sherman Hotel, Chicago, Ill., Sept. 10-12.

American Institute of Parks Executives, Denver, Colo., Sept. 13-18.

National technical conference on lighting, Illuminating Engineering Society, Hotel Commodore, N. Y., Sept. 14-17.

American Concrete Pipe Association, executive committee, Castti Harbour Hotel, Bermuda, Sept. 19-30.

National highway conference of county officials, American Road Builders Association, Lake Delton, Wis., Sept. 24-25.

National Electrical Industries Show, 69th Regiment Armory, New York City, Sept. 29-Oct. 2.

Main Span of Bridge over Missouri River at Omaha, Nebraska. 2200 Tons fabricated and erected.

River Bridges and Super Highways

Both fabricating the structural steel and the erection of it are made-to-order jobs for Allied. The facilities of 3 fabricating shops work as a unit where very close schedules must be met.

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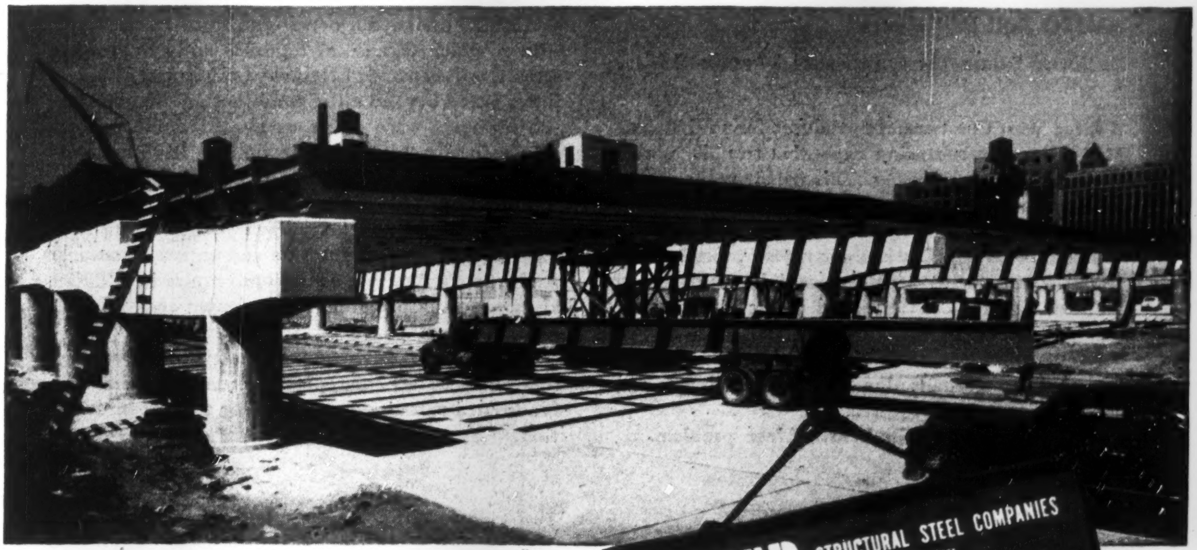

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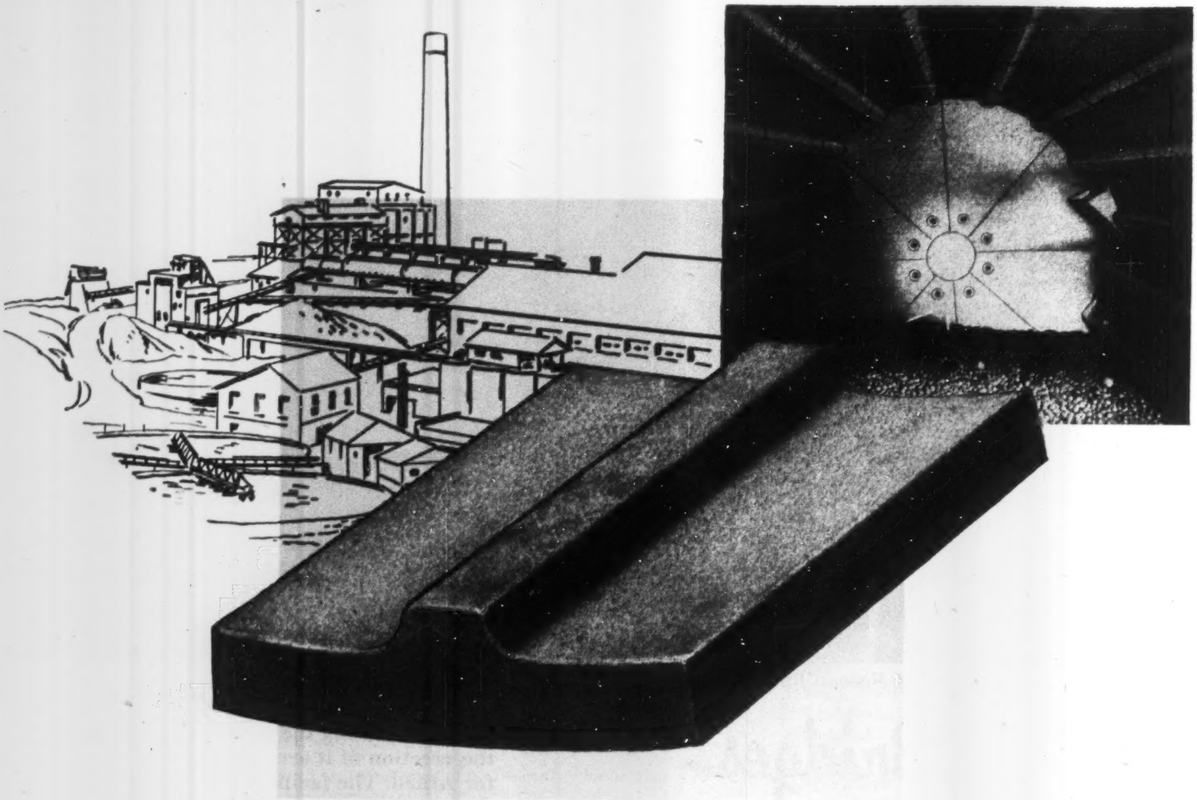

this LINER boosted production 35%

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Reduced Down-Time, Increased Production...

A large West Coast cement producer found that Ball Mill Liners were causing expensive trouble. Liners were thick—*over 3 inches*. This meant reduction in mill capacity. Thick liners also meant tremendous weight. Both thickness and weight reduced production and efficiency. *Liners wore rapidly*, too, causing frequent, expensive replacement jobs, with costly labor and material. And added to the bill was lost production due to mill down-time.

Well-known for their skill in handling impact and abrasion-resistant alloys, AMSCO engineers and foundrymen were consulted.

AMSCO solved the Ball Mill Liner problem.

AMSCO designed a new, light, thin—*1 inch thick*—liner, which because of lightness and thinness increased mill capacity, heightened efficiency. The new liners lasted beyond all expectations and in addition the segments were easier to install. These factors, plus reduced replacement down-time, have been responsible for a *35% increase in production.*

AMSCO is the largest producer of Manganese Steel, "the toughest steel known," which has proven itself under countless abrasion and impact situations. And where the service conditions require it, AMSCO also produces Chromium-Molybdenum and Chrome-Manganese alloys.

If you have a tough wear problem and suspect that there may be a better alloy for your purpose, you are invited to write to AMSCO for further information.

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Amsco Welding Products distributed in Canada by Canadian Liquid Air Co., Ltd.

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THE CONSTRUCTION WEEK

- **Up—but down**—There was a note of we-told-you-so in that fiscal year report Assistant Secretary Fred Aandahl submitted to Interior Secretary McKay last week. Said Aandahl: June this year showed a dollar-wise accomplishment of $22 million worth of construction—higher than June in the previous year, highest for fiscal '53 except for September. And, noted Aandahl, the bureau in the same period has accomplished a 9% reduction in personnel and a 9.4% saving in salaries.

- **Organization vs. organization vs. organization**—The U. S. —which probably has more organizations to support or oppose something than all other nations put together—got something new this week: an organization to oppose organizations which are opposed to toll roads.

  It happened at Oklahoma City where the Citizens Turnpike Assn. was formed to fight anti toll-road groups that are opposing construction of three turnpikes authorized by the state legislature.

- **Lower pay is good**—Lower pay of construction men who work abroad (as compared with movie stars, that is) will work to their advantage under new tax laws that plug loopholes in coverage of wages earned abroad over extended periods.

  In passing an omnibus tax measure, Congress revoked a section of the Revenue Act of 1951 which had enabled Americans to spend 17 out of 18 months overseas and escape federal income tax on money earned abroad. Observers explained that the original intent had been to provide incentive for skilled technicians—but high-salaried performers saw the opportunity, took commitments that kept them in Italy and other continental movie centers for extended periods.

  So Congress put a ceiling of $20,000 on the amount that can be earned abroad and still escape paying income tax.

  That ceiling will cover most construction people.

- **Weather for August**—Here's the newest 30-day forecast of the U. S. Weather Bureau, part of ENR's newly inaugurated weather service for construction men. Read this forecast with the tables showing normal temperature and precipitation ranges, which were published in ENR July 16, p. 41.

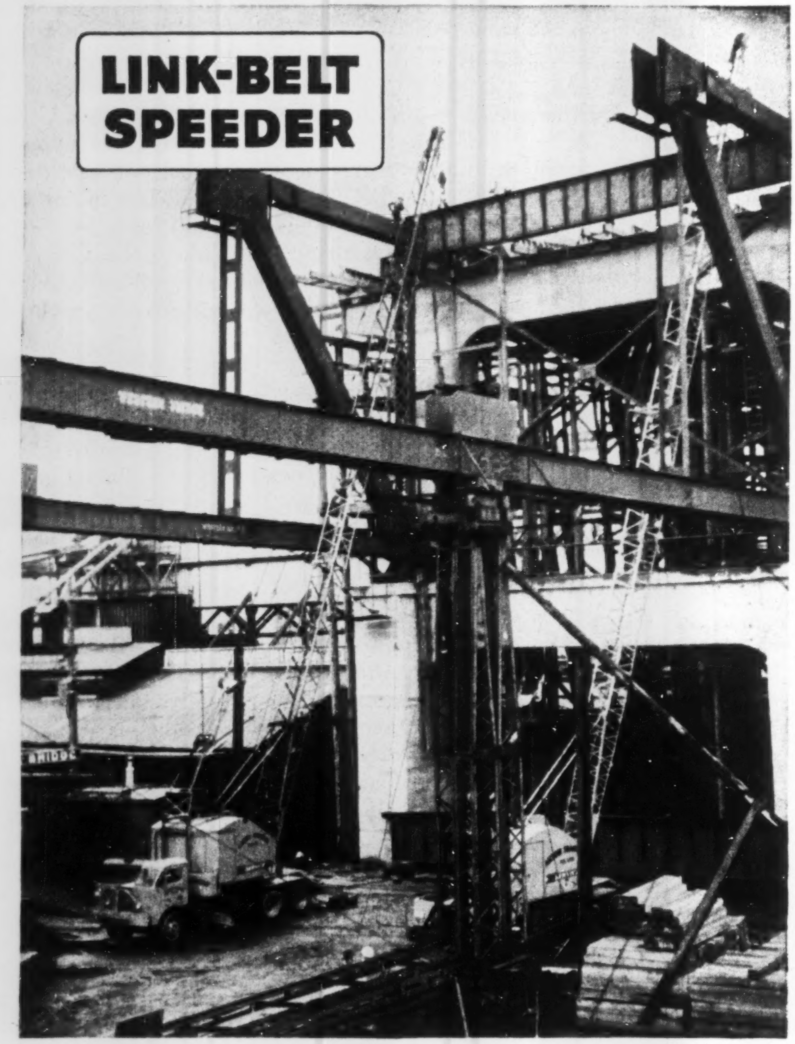
  The next series of charts and forecast will be published Aug. 20:

  Temperatures to average below normal in the northern half of the nation—except near normal in the Lower Great Lakes region, Middle Atlantic States and Northwest Coastal areas. Above-normal temperature expected in the southern half of the country, except near-normal in the Central Plains.

  Precipitation to exceed normal in central and northern areas; with sub-normal in the Southeast, Far West and West Texas. Near normal in Rocky Mountain, Southern Plains and Gulf Coast.

Before you buy a Truck-Crane:

Check safety, mobility!



▲ These two HC-90's, with 80-ft. booms, speed a steel erection job in Vancouver, B.C. At times, one of the rigs is equipped with a 90-ft. boom and a 20-ft. jib.

Patented Retractable Gantry is raised or lowered under power in minutes. Raised gantry decreases load on boom, hoist cable and mechanism . . . results in safer operation. ▶

Link-Belt Speeder HC-51 and HC-90 Truck-Crane designs assure more work per shift, greater earnings per job

TAKE the HC-90 for example: here's a 25-ton capacity rig that has upper machinery specifically engineered to match its extra lifting capacity.

While this special design increases performance and stability, it's only one of the many advantages you get with a Link-Belt Speeder. In addition to rugged all-welded construction and heavy-duty components throughout, there are features such as: patented retractable gantry, hook-type conical shaped rotating rollers and pin-connected hinge-type boom.

Then, too, with ten speeds forward and positive drive to four full-floating rear wheels plus removable rear outriggers, the fully convertible HC-90 travels and works almost anywhere. It's this quick mobility that helps turn small, scattered assignments into real profit-makers.

For details on the 25-ton capacity HC-90, see your distributor or write for catalog 2350. For facts on the 12½-ton capacity HC-51, ask for catalog 2428.

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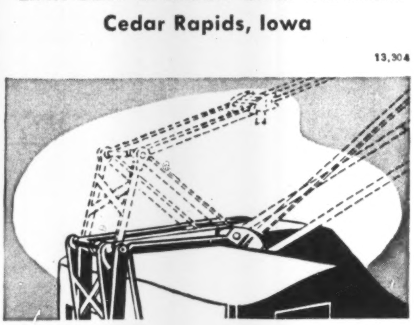

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WASHINGTON OBSERVER

A size-up of Congress, what happened in construction:

$2.25 billion in funds for fiscal 1954 for Corps of Engineers civil projects, military construction, reclamation, TVA, airports, etc. (see page 21).

A new housing law adjusting regulations and giving Eisenhower authority to shift down payment limits.

Public housing cut to 20,000 units, 15,000 less than asked by Eisenhower.

New lease on life to the Eklutna power project in Alaska—Congress approved $33 million in expenditures to keep the work going.

Korean reconstruction okayed, around $200 million being the first leg of a proposed three-year, $1-billion program. That's overall, details on how much construction there will be still have to be worked out.

Excess profits tax extended until Jan. 1; but some relief for individuals and corporations is in store next year.

•

Some major legislation was left over for next session:

Bid shopping—Committees in the House and Senate approved legislation clamping down on the practice of general contractors of shopping for bids among specialty contractors, but opposition blocked the bills.

Contracts disputes clause—The Senate voted to permit contractors to appeal decisions of government officers to the federal courts. But the House committee had barely begun consideration at adjournment time. It'll be up for consideration next year, too.

Taft-Hartley—Eisenhower had a message (which he didn't send along) to go to the Congress at adjournment time, giving a basis for major consideration next year. The proposal would give more freedom to building trades in labor relations—in hiring, in making bargaining contracts, in secondary boycotts.

Social Security tax—The payroll tax on employees and employers will go up ½% to reach 2% on each on Jan. 1. Eisenhower wanted the 1½% rate frozen; Congress said no. The increase will get the Treasury $1.6 billion. A new Social Security proposal will go to Congress next year for approval. It will bring in 10 million new people, including professional beneficiaries not now in the Federal Old Age-Survivors Insurance program.

Atomic energy—Groundwork for amending the McMahon act laid in hearings aimed at letting industry take part in peacetime use of atomic power; the real consideration will come next session.

•

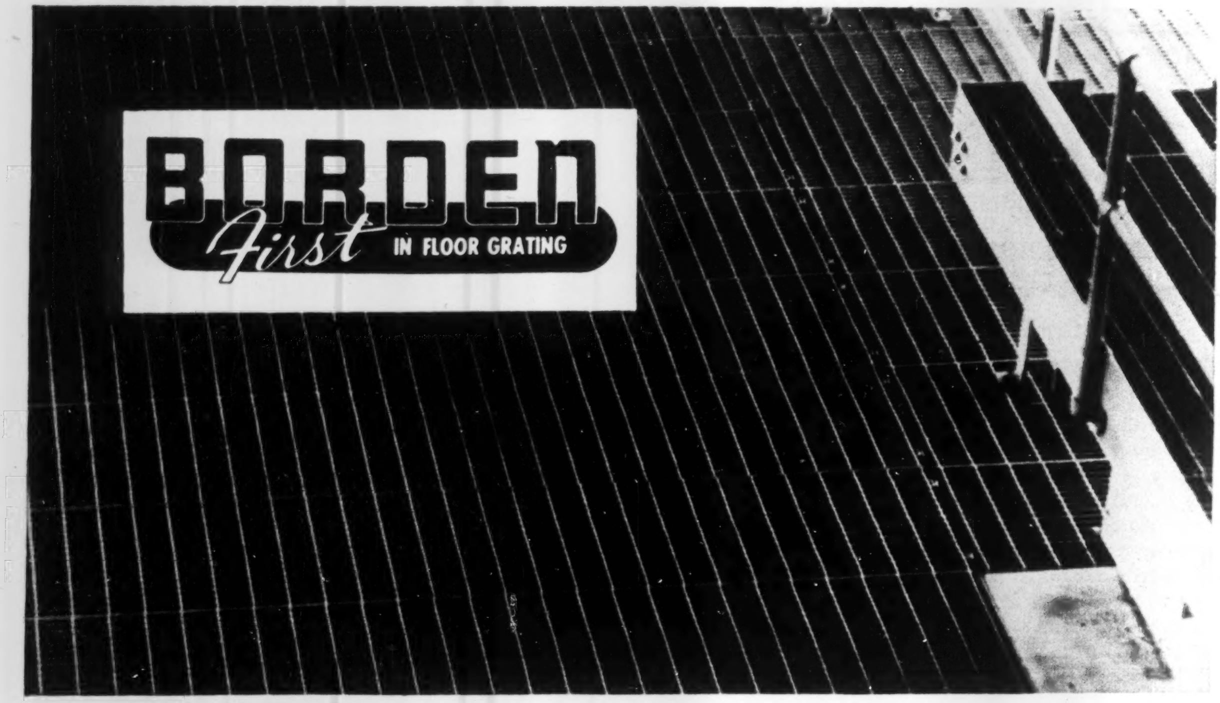
The new Business Services Administration will take over from National Production Authority by Sept. 1. Its construction and building materials division will be set up to aid in construction, heating, prefabricated buildings, building materials, plumbing, and builders' hardware. The BSA and the industry division will handle priorities of the few materials still needed for the military, plus promoting business interests.

•

Revision of housing statistics by the Bureau of Labor Statistics is now assured. Congress finally earmarked $95,000 for the job. The chief overhaul: to bring figures up to date on which to estimate shifts of population. BLS had been using 1940 figures. Now it will use the 1950 Census, and adjust its sampling accordingly.

•

Housing Administrator Cole may be in your area with his "shirt-sleeve" conference on housing policy this month. Aug. 6 in Chicago; Aug. 7 in Omaha; Aug. 8 in San Francisco; Aug. 10 in Albuquerque; Aug. 11 in Dallas-Fort Worth; Aug. 12 in Memphis.



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AUGUST 6, 1953 ENGINEERING NEWS-RECORD

Federal projects voted $2.1 billion

Congress cuts new money for construction two-thirds under last session's outlay but big carryover funds insure contractors only slightly less fiscal '54 work

New federal construction money totaling approximately $2.1 billion for the current fiscal year was voted by the Republican Congress which adjourned this week.

This was less than one-third the amount voted for construction by Congress last year (see table on page 22), but actual impact on construction activity by the federal government will not be nearly this drastic.

Reason is that the new appropriations will be added to some hefty carryovers from last fiscal year. Net effect will probably be a construction program only slightly less than for the fiscal year ended June 30.

• Some expenditures will rise—In several cases, construction expenditures will be above last year's level although the appropriations are considerably less. Take Atomic Energy Commission for instance: To carry on a three-year construction program, the agency requested and received an appropriation of $3.3 billion last year, but spent only $1.1 billion on construction and equipment. This year it asked a mere $166 million, but will spend an estimated $1.4 billion.

On a smaller scale, the same is true of Tennessee Valley Authority. A big slice of the $336 million voted for the agency last year will be available for actual construction expenditure along with the $188.3 million new money voted this year.

Military construction provides another example of the effect which carryover funds will have on construction activity for the present fiscal year and possibly for the next fiscal year. Congress voted $240.8 million in new money for military construction this year, all of which goes to air base construction. An estimated $1.7 billion is available in caryover funds to supplement this year's appropriations.

For construction, the Defense Department has scheduled expenditures of $1.5 billion for this fiscal year, compared with an estimated $2 billion for last fiscal year. Air base construction will account for about $900 million this year, compared with $1.1 billion for the previous year.

For hospital construction by the Veterans Administration, Congress appropriated for this year $17.5 million although the Eisenhower Administration had requested no funds. This, together with a carryover of some $20 million, is to be used for continuing construction on hospitals already underway and for planning new ones. In its final action, Congress disallowed $30 million which the House had voted for VA hospital construction at San Francisco, Topeka, Kan., and Houston, Texas.

• New [illegible] kept to minimum—In general both the Republican Administration and Congress adhered to these three goals in trimming appropriations for the present fiscal year:

- • Made full use of available carryovers to reduce actual appropriations for the present year.
- • Reduced "new starts" to a minimum for civil public works.
- • In a few cases, halted work on projects which were in the early stages of construction.

Funds appropriated for Corps of Army Engineers civil function projects are an example of the Republican economy program (ENR July 30, P. 21).

For general construction, Congress appropriated $276.6 million and an additional $1.9 million for planning and design. Available from surplus is some $13.5 million which will be added to this year's construction program. There were no new starts provided for the Corps' civil functions program, and construction on the huge Table Rock multi-purpose project

BUREAU OF RECLAMATION PROJECTS

	Truman budget	Eisen-hower budget	Final program (includes carryover funds)
	(millions of dollars)		
TOTAL CONSTRUCTION PROGRAM . .	**193.8**	**145.0**	**172.0**
Major projects include:			
Eklutna project, Alaska	12.7	12.7	7.7
Gila project, Arizona	4.5	4.3	4.5
Davis Dam transmission, Ariz.-Nev.	3.8	3.7	3.8
Cachuma project, Calif.	6.5	6.5	6.5
Central Valley project, Calif.	19.2	12.5	24.0
Salono Project, Calif.	. . .	. . .	2.1
Colorado-Big Thompson	5.7	5.1	5.4
Palisades project, Idaho	17.6	17.6	17.6
Weber Basin project, Utah	6.7	5.7	5.7
Columbia Basin project, Wash.	21.9	20.4	20.6
Yakima project, Kennewick Div., Wash.	4.0	3.9	3.9
Kendrick project, Wyo.	3.0	2.9	3.0
Missouri Basin:			
Bostwick Div., Neb.-Kan.	4.5	4.0	4.2
Canyon Ferry unit, Mont.	1.0	.8	1.0
Frenchman-Cambridge Div., Neb. . .	4.9	4.2	4.5
Jamestown unit, N. D.	1.7	1.7	1.7
Kirwan unit, Kansas	8.4	0.0	6.5
Lower Marias unit, Mont.	7.5	7.5	7.5
Mo. diversion unit, Mont., N. D. . . .	5.3	0.0	2.0
Webster unit, Kan.	6.0	0.0	5.0
Transmission, all Missouri Basin states	19.8	10.9	14.1

Here's lineup of U.S. appropriations

TO COVER CONSTRUCTION IN FISCAL '54

	(Millions)	
	Fiscal '54	**Fiscal '53**
ALL CONSTRUCTION	**$2,091.9**	($8,223.9)
MILITARY CONSTRUCTION		
Air Force—airbase construction	**$240.8**	($1,245.3)
Army—military bases		($586.9)
Civilian components	**$9.1**	($20.0)
Navy—Bureau of Yards and Docks	**$0**	($363.3)
Civilian components	**$30.0**	($0)
Secretary of Defense—military construction	**$0**	($140.0)
ARMY CIVIL FUNCTIONS		
Rivers and harbors & flood control	**$287.7**	($501.5)
Mississippi R. flood control	**$51.4**	($60.3)
Other civil functions	**$0**	($4.2)
INDEPENDENT OFFICES		
Atomic Energy Commission	**$166.0**	($3,327.5)
TVA	**$188.4**	($336.0)
VA hospitals	**$17.5**	($117.5)
NACA	**$11.4**	($17.7)
HHFA slum clearance & urban development	**$20.0**	($8.0)
Defense Housing	**$0**	($32.5)
Gen'l Services Adm.—Public bldg. service	**$99.4**	($117.2)
American Battle Monuments	**$0**	($45.0)
INTERIOR		
Reclamation	**$116.3**	($181.8)
Bonneville Power Adm.	**$38.9**	($66.5)
Alaska—public works	**$12.0**	($13.2)
Roads	**$14.6**	($17.0)
Railroad	**$4.2**	($3.9)
Virgin Is.—public works	**$1.0**	($2.6)
Bureau Indian Affairs	**$15.9**	($17.0)
National Park Service	**$15.4**	($15.0)
Other Interior	**$29.3**	($37.6)
COMMERCE—BUREAU PUBLIC ROADS		
Federal aid highways	**$475.0**	($510.0)
Forest highways	**$15.0**	($18.0)
Access roads	**$5.5**	($28.0)
Grade crossing elimination	**$2.2**	($0)
Public lands highways	**$1.8**	($0)
Inter-American Highway	**$1.0**	($1.0)
Rama Road, Nicaragua	**$1.0**	($0)
COMMERCE—CAA		
Federal aid airports	**$34.2**	($23.3)
Washington Nat'l Airport	**$0.4**	($0.03)
COMMERCE—Other	**$1.2**	($0.1)
LABOR, HEALTH & WELFARE		
Hospital construction	**$65.0**	($134.7)
School construction	**$70.0**	($195.0)
Other	**$4.4**	($16.2)
AGRICULTURE		
Forest roads and trails	**$14.5**	($16.0)
Flood control	**$5.0**	($7.8)
STATE		
Internat'l Boundary & Water Comm.	**$5.1**	($13.7)
JUSTICE		
Federal Prison System	**$0.2**	($0.8)
LEGISLATURE		
Capitol arch	**$1.3**	($0.07)
DISTRICT OF COLUMBIA	**$28.8**	($21.5)

in Missouri and Arkansas was closed down.

- **Reclamation program** – Congress made full use of carryover funds in working out the Bureau of Reclamation construction program for fiscal 1954. By doing so it was able to trim appropriations from the $193.8 million requested by the former Truman Administration to $116.3 million, and still come up with a $172 million construction program for the present fiscal year (see table p. 21).

For the major projects, the final program approved by Congress is only slightly under appropriations asked by the Democrats and considerably above those requested by the Eisenhower Administration. Congress was able to work this sleight-of-hand by including carryover funds in its program, whereas the Truman and Eisenhower requests were for new money.

Biggest single reduction on Reclamation construction was made on the Missouri River Basin Transmission Division. In cutting the Truman request by nearly $6 million on this item, Congress deleted a number of 115-kv and 230-kv transmission lines from Missouri Basin multi-purpose projects.

In doing this, Congress is relying on privately owned electric utilities to construct the necessary lines. This also accounts for reductions in the Bonneville Power Administration funds. To some extent, this reflects the budding new Republican power policy of giving private utilities a bigger role in the distribution of federally produced power.

Cut in funds for the Eklutna project in Alaska will probably slow construction on that project, but this amount was over and above the figure previously authorized for this project.

As Congress wound up affairs Monday afternoon, it cleared both authorizations and appropriations for school construction in federally impacted areas. It authorized $174 million to continue during fiscal 1954 and 1955 its school construction program in defense, military, and other areas where federal activity has increased the school load. Part of the authorization was earmarked—$55 million—to come out of entitlements that came in too late to be taken care of during fiscal 1953.

Congress finally abolished any federal grant-in-aid money for local airport construction. In the final hours, the Senate backed down on its demand that 12.5 million be voted for fiscal 1954 after the House had flatly refused to budge. Ex-President Truman had asked for $30 million in his budget for the year; last year $19.3 million was voted.

Spanish bases are still programmed with funds available for four jobs

Plans for air base construction in Spain have survived the congressional economy drive and close scrutiny of Air Force programs. The U. S. is ready to begin building four bases as soon as the prolonged negotiations with Franco can be completed.

Undersecretary of the Air Force James H. Douglas estimates that construction at the four undisclosed sites will cost about $160 million.

Originally, the Air Force had figured on about eight bomber bases and a half dozen fighter strips. However, Washington sources now indicate the program has been narrowed to seven sites.

A recent ENR on-the-spot report surmised that the bomber bases are likely to be located near Madrid, Seville, Ciudad Real and Albacete and fighter strips near Valencia, Zaragoza, and Barcelona (ENR May 14, p. 33).

Chances are that when work begins, it will include the Seville and Madrid sites plus two of the three proposed fighter bases in northeastern Spain near the Mediterranean. Reason is that the immediate need right now is for fighter installations rather than long-range bomber bases. Strategic bombers can operate out of already constructed sites in Lybia, and French Morocco with Maison Blanc, Algiers, as a secondary possibility.

The Air Force has sufficient funds right now to begin work on four sites. In a recent secret hearing, Chairman Leverett Saltonstall of the Senate Armed Services Committee estimated that the Air Force has about $100-million carry-over and new money set aside for the Spanish base program.

Official Washington refused to speculate on when final agreement with the Spanish government would be concluded. But, the feeling was that nearly all the wrinkles had been ironed out and the Spanish are on the verge of winding up negotiations.

Utility company claims cheaper power for its Hell's Canyon 3-dam plan

Idaho Power Co.'s proposed three-low-dam development of the Hell's Canyon stretch of Snake River would produce power more economically than would a high-dam development, company witnesses testified last week.

Comparative costs of power production were discussed as the Federal Power Commission hearing went into its fourth week. The company is asking an FPC license to build and operate the low-dam development as opposed to the high-dam plan formerly supported by the Interior Department.

Hearings on the company application were slated to recess at the end of this week upon conclusion of direct testimony by power company witnesses. No time has been set for reopening the hearings for testimony by opponents of the application and the FPC staff. The recess may last a month or more.

In testimony at the current session of hearings, Idaho Power sales engineer Robert A. Hogg estimated that cost of energy from the three-dam development would run 1.33 mills per kilowatt-hour, compared to an estimated 3.56 mills per kilowatt-hour from the high-dam development.

Hogg noted that the high dam would probably slightly more prime power annually than would the low dams, but he calculated that this small addition would cost a whopping 39.92 mills per kilowatt-hour. If the output of the high dam was sold at present Bonneville Power Administration rates —$17.50 per kilowatt year—Hogg estimated the government would have run up a deficit of $631.3 million in a fifty-year period. This would be nearly twice the cost of the federal project.

The Idaho Power engineer said his estimates were based on a three-year study of problems involved in the Hell's Canyon development. He also testified that future irrigation development upstream from the Hell's Canyon site would so deplete the stream flow as to render a high storage dam unfeasible over a fifty- or sixty-year period.

The largest storage feasible over a sixty-year period he said, would be about 1,000,000 acre feet. This is the amount included at the company's proposed Brownlee project. The high-dam development would involve about 4,000,000 acre feet of storage.

Hogg's testimony was supported by H. Loren Thompson, an independent consulting engineer of Portland, Oregon. Thompson, who was retained by the company to make a comparative report on the two schemes, said that the high dam would develop only about one-third of the prime power claimed by federal engineers, and would cost about one-third more than the Interior Department has estimated.

Pennsylvania commission to build toll tunnels

Creation of a Pennsylvania Tunnel Commisison to construct intra-state highway toll tunnels has been authorized in a measure signed last week by Gov. John S. Fine.

Immediate purpose of the authority is the tunneling of Penn-Lincoln Parkway under Mt. Washington in Pittsburgh as a section of the western half of the trans-Pittsburgh Parkway, most of which has been financed by sale of State Highway and Bridge Authority bonds.

Governor Fine also signed a bill increasing by $95 million the debt ceiling of the General State Authority, the state's borrow-and-build agency. It pushes the debt limit up to $330 million for GSA, which is about to undertake a two-year multi-million-dollar program of state hospital and educational building construction.

Consultants selected for toll road study

The Kansas Turnpike Authority has selected consulting firms to study the feasibility of the proposed toll highway from Kansas City to the Oklahoma line.

Coverdale & Colpits, New York, have been chosen to make a traffic survey. Cost estimates will be made by Howard, Needles, Tammen & Bergendoff, Kansas City. Mitchell & Pershing, New York, have been selected as general bond counsel.

Separate reports will be made on three sections of the proposed route. One will cover Kansas City to Topeka; a second, Topeka to Wichita; and a third, Wichita to the Oklahoma border, where connection would be made with a projected extension of the recently opened Oklahoma City-Tulsa turnpike.

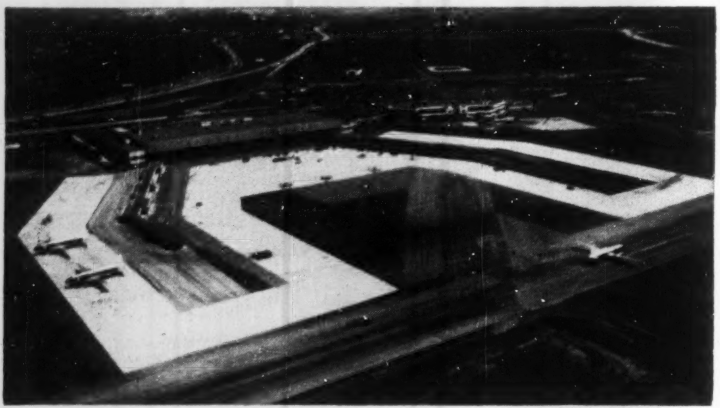
The proposed route would run southerly from Kansas City, passing near but not through Lawrence, Topeka, Emporia, Wichita, and Wellington.

Port builders to meet in Rome in September

The 18th Congress of the Permanent International Association of Navigation Congresses is to be held in Rome, Italy, Sept. 15-22.

The association is made up largely of civil, hydrological and electrical engineers.

Fuller information on the program can be obtained from Col. F. H. Falkner, Secretary, American Section, c/o Board of Engineers for Rivers & Harbors, 119 D St., N.E., Washington 25, D.C.



Wide World photo

NEW TERMINAL BUILDING and other facilities of Newark Airport as seen from the air. The new building, five times the size of its predecessor (upper right) features 500-ft glass-walled observation deck and two 575-ft passenger arcades.

Newark Airport terminal dedicated

Dedication of an $8.5-million terminal building at Newark Airport last week marked completion of more than half of a $50-million improvement program guaranteed by the Port of New York Authority in a 50-year lease signed with the City of Newark in 1948.

The lease stipulated that improvements be completed in 1955. Total investment to date exceeds $27 million.

A novel feature of the 576x166-ft building is the design used for eighteen 171-ft span roof trusses. These cantilever 93 and 113 ft over the lobby. Although designed as a permanent terminal building, it could be converted to a hangar at low cost if necessary.

While the mayors of Newark and nearby Elizabeth shunned the ceremony as an expression of their concern for the safety of the surrounding area, dedication addresses by New Jersey's Gov. Alfred E. Driscoll and Lt. Gen. James H. Doolittle stressed that safety was a primary aim of the authority's improvement program.

Gen. Doolittle, who headed the President's Airport Commission which investigated the disastrous air crashes at Elizabeth in early 1952 (ENR Jan. 31, 1952, p. 24), declared that the airport "with its fine new instrument runway and comparatively clear approaches to that runway, is one of the best and safest airports in the world."

Doolittle's reference was to the $9-million, 7,000-ft runway opened in November 1952. The strip features a parallel taxiway with lateral connections every 1,200 ft. A 3,000-ft approach lighting system has 90 horizontal bars of light, each 14 ft wide. In the center of each bar and pinpointing the runway center line, is a flashing light. The 30 lights flash in sequence so that the pilot sees a "moving light" going down the center towards the runway.

Polar air base to get more steel structures

The Air Force has ordered more standardized steel structures for its Greenland bases, following a year's successful use of 12 such buildings at Thule Air Base, 910 miles from the North Pole.

Luria Engineering Co.'s Bethlehem, Pa. plant is fabricating eight new structures, including an infirmary, chapel, control tower, water treatment plant, warehouses and shop. The structures will be ready for shipment in August and will be erected by the North Atlantic Constructors, New York, the organization of contractors which built the Thule base. Alfred Hopkins & Associates, New York, and Metcalfe & Eddy, Boston, are the architects and engineers.

Last year's output of Luria standardized structure for Thule Air Base included a 31,968-sq-ft salt water distillation plant (three buildings), seven warehouses totaling 57,288 sq ft of floor space, a 20,008-sq-ft auto maintenance shop and a 10,824-sq-ft laundry and dry cleaning plant.

National Housing Center plans announced by NAHB

A site is now being cleared in downtown Washington for construction of an eight-story National Housing Center, which will serve as both headquarters for the National Association of Home Builders and as a permanent exhibit building.

Six floors will be devoted to exhibits representative of all phases of the home building industry—design, materials, workmanship, etc. Exhibits will be changed frequently to keep pace with new developments.

NAHB's research institute will be located in the center. And, there will be a comprehensive reference library of housing publications.

Designed by Aubinoe, Edwards & Beery, the center will be constructed by the Washington firm of Alvin L. Aubinoe, Inc. Each floor of the reinforced concrete structure will be designed for alternate use as exhibit or office space. Construction is scheduled to begin about Sept. 1.

Virginia toll road proposal endorsed

The Virginia Highway Commission has endorsed the $57.2-million Richmond-Petersburg toll highway route recommended by its consulting engineers (ENR July 30, p. 22).

Its action marks a sharp change in policy, as up to now the commission has resisted toll road propositions, notably those from private interests.

Creation of a toll road authority has been recommended by the commission. This will require action by the General Assembly, which meets in January.

In endorsing the toll road, which would roughly parallel Route 1, the commission emphasized that it would not curtail further improvements on Route 1 or other through roads affected by the project.

State to provide aid for local sewage plants

The Pennsylvania legislature has appropriated $2 million to aid municipalities in complying with state orders to construct sewage treatment plants.

The measure takes on particular significance in view of an increasing number of states having broadened local borrowing and taxing powers to ease the financial burdens imposed by more stringent state pollution abatement programs.

Pennsylvania's action is believed to be the first instance of direct state aid. Wisconsin recently blazed a trail by providing tax concessions to industries for money spent on pollution control facilities (ENR July 9, p. 24).

Sanitary engineers

Joint committee proposes ASCE and EJC—not a new group—certify engineers

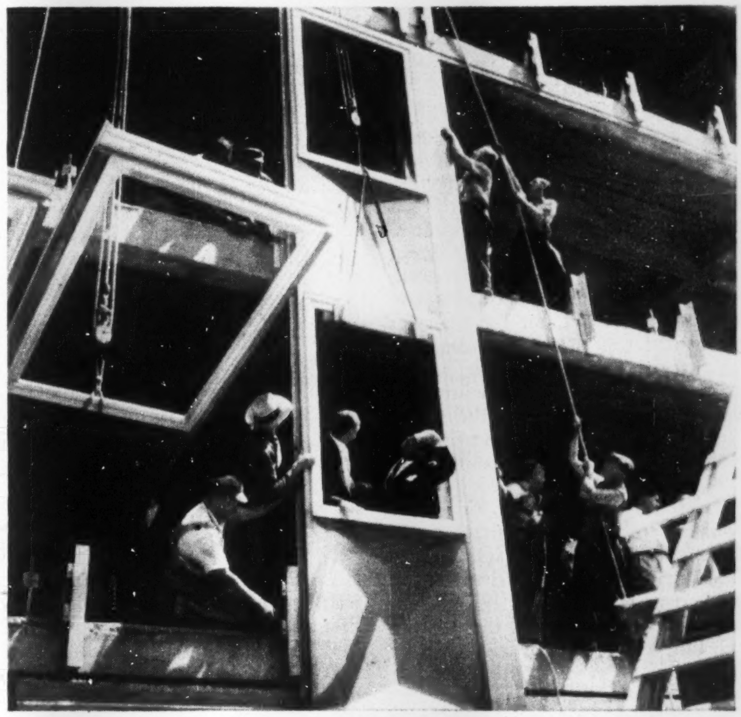
The Joint Committee for the Advancement of Sanitary Engineering met in Washington, D. C. last week and came up with a proposal intended to settle the question of whether still another organization is needed for sanitary engineers (ENR Mar. 5, p. 124; Mar. 12, p. 28).

Their proposal: Let the American Society of Civil Engineers and the Engineers Joint Council handle the certification of sanitary engineers. The need for a specialty board to certify as to training and experience of sanitary engineers—especially in government employ—has been cited as a prime concern of those who have argued for a new organization.

The Joint Committee proposal is that a five-member certification board appointed by the board of directors of ASCE issue certificates to individuals evidencing satisfactory professional ability and designate them members of an American Academy of Sanitary Engineers. Thus, the AASE (which was the name proposed for the independent organization) would exist not as an organization but merely as a roster of those certified by the specialty board. Modest expense of operation would be defrayed by a fee for certification.

If this proposal of the Joint Committee is to be adopted, it must have endorsement of ASCE's Sanitary Engineering Division, ASCE's Board of Direction, and the Engineers Joint Council.

Prof. Ernest Boyce, chairman of the department of civil engineering at the University of Michigan, presided at last week's Joint Committee meeting as its chairman. The committee members represented the American Public Health Assn., American Society of Civil Engineers, American Society for Engineering Education, American Water Works Assn., and Federation of Sewage & Industrial Wastes Assns.



Skyscraper gets aluminum skin

Enclosure of the structural steel frame of a 26-story building at 99 Park Ave., New York City, started last week with the erection of the first of 1,800 two-story high aluminum panels. Work promises to go fast: By the end of the day, panels had been placed up to the 8th floor. Norman Tishman, president of the Tishman Realty & Construction Co., the general contractor (with arm upraised in photo) gave the signal to start the enclosing operation. He is accompanied by Aaron Saphier, president, General Bronze Corp., who holds the contract for fabrication and installation of panels. Details of this project will be published in a subsequent issue.

State housing agencies upheld in North Dakota

The constitutionality of North Dakota's state housing authorities act has been upheld by the State Supreme Court. The decision, however, held that Southwest Fargo had exceeded its powers in two provisions of a contract between the city and the Cass County Housing Authority.

The court voided a provision of the contract which subjects the municipality to the discretion of the Federal Public Housing Authority relative to elimination or improvement of slum-type, unsanitary buildings. Under this provision it had been agreed that within five years the city would clear out objectionable buildings equal to the number of dwelling units in the housing project.

Also overruled was a provision requiring the city to collect payments from the housing unit tenants for distribution to taxing agencies in lieu of taxes.

The case dates back to July 1951, when the PHA approved construction with federal funds of 24 low-cost dwelling units in Southwest Fargo with the Cass County Housing Authority acting as the local agent of the PHA.

Army Engineers to build dredging disposal area

The Army Engineers have been voted $700,000 to begin work on a Hampton Roads disposal area for dredged material. An $8-million project expected to take three years, the disposal area will be located on the south side of Hampton Roads adjoining the mainland north of Portsmouth, Va.

Initial funds will be used for land acquisition, construction of an access road, and designing of a re-handling plant. Construction of retaining levees, will await further funds promised for the next fiscal year.

The disposal area will cover about 2,500 acres. Levees will measure about 30,000 ft from one shore point to the other. When filled, the area will rise 18 ft above mean low water.

It is estimated that about five million cu yd of dredged material can be pumped into the completed basin annually. Last year, 4.2 million cu yd were dredged in the Hampton Roads area.

Need for the disposal area became acute earlier this year when the Army Engineers halted all dumping of dredged material inside Hampton Roads for lack of a dumping place. Meantime, all dredged material is being barged outside the Virginia Capes.

Honolulu tunnel

New highway to cross 1,000-ft-high range

Plans giving details of how five miles of modern four-lane divided highway are to be built across the 1,000-ft-high range called the Pali, lying between Honolulu and its windward suburbs, have been released by the Territorial Public Works Department in Hawaii.

Approach work has been under way for about two years but the plan for crossing the top has been undergoing regular revision. First one long tunnel was planned. Then, five smaller ones were suggested to preserve the scenic value of the route. The final plan calls for three tunnels of 200 ft, 460 ft, and 1,000 ft.

The route plan specifies two 24-ft pavements of asphaltic concrete with 5-ft shoulders on each side and a medial strip varying from 6 to 18 ft—except over areas where the existing road is preserved. Part of the existing road, now 18 ft to 30 ft wide, will be widened where necessary and used to carry downward traffic in the area around an over the top of the steep windward face of the Pali.

Up traffic won't go over the top but will pass underneath via the 1,000-ft tunnel. All three tunnels will be 32 ft wide between walls with 28 ft of pavement.

Maximum grade on the new road will be 7%, reduced to 6½% on curves, compared to grades up to 14% on the present road.

Work on a 1.1 mi section of entirely new road on the east slope, where the existing road is to be abandoned entirely, has been under construction for some time and will be opened to traffic in December.

Total cost of the territorial government project is estimated at $6 million. It is scheduled for completion in 1958.

Photo by Ross

Lazarus White, authority on foundations, is dead

Lazarus White, 79, a founder and retired president of Spencer, White & Prentis, New York City engineering firm, died July 30 in Larchmont, N. Y. An authority on foundations and underpinnings as well as co-inventor of the pretest system, he had served as consultant to both the federal government and municipalities.

After graduating from Columbia University in 1897, Mr. White began his civil engineering career by working on fortifications at Key West, Fla., during the Spanish American War. Later, in New York, he made important contributions to the subway and water supply systems. During World War I he headed the construction of Camp Meade, near Baltimore.

In 1919 Mr. White assisted in the formation of Spencer, White & Prentis and served as president from the firm's founding until retirement in 1949. His recent construction projects included airfields in the Bahamas, port facilities in Iran, drydocks in Philadelphia and Norfolk, Va.

Skyscraper to top Chicago soil depot

Foundation work is nearly completed for the $37-million, 41-story Prudential Insurance Co. building, first skyscraper to be built in Chicago's downtown area in 20 years.

George A. Fuller Co. of Chicago has been awarded the contract for general construction of the steel-frame building, which will be faced with limestone and aluminum.

The air-conditioned structure, scheduled for completion in late 1955, will provide 1,000,000 sq ft of rentable floor space. It will contain a 400-car garage for tenants and a 1,000-seat auditorium. The building will connect with Illinois Central station and the underground parking area being built under Michigan Ave. and Grant Park.

Excavation started less than a year ago and has been carried on without interrupting service on the six suburban and ten freight railway tracks of the Illinois Central's Randolph Street suburban station, over which the skyscraper will stand.

The Gary Works of U. S. Steel Corp.'s American Bridge Division is fabricating the steel structure. Naess & Murphy, Chicago architectural and engineering firm, are designers of the structure.

News briefs . . .

• **Tuttle takes new job**—After 25 years with the U. S. Bureau of Public Roads, Lawrence S. Tuttle has joined the engineering staff of the Automotive Safety Foundation. His first assignment is supervising engineer for a West Virginia highway study. Tuttle became Assistant to the Commissioner of Public Roads in 1939. During the last seven years of his service, he directed the Bureau's program for training foreign engineers.

• **New Ford plant**—Contract has been awarded for construction of 1.5 million-sq ft assembly plant for the Ford Motor Co. near San Jose, Calif. Receiving the contract, unofficially reported to be $8.6 million, was J. H. Pomeroy & Co., general contractor, San Francisco. Bethlehem Steel Co. is scheduled to erect the 7,500-ton steel frame by February, with completion of the plant scheduled for next July. Albert Kahn Associated Architects and Engineers, Inc. designed it.

• **Weight limit study**—California's State Division of Highways will make an engineering study of 250 mi of road used extensively by logging truckers to determine whether paving can withstand heavier weights than the 78,000 lb prescribed by law.

• **Slide condition probed**—Seeking to end a slide condition along the Columbia River below Grand Coulee Dam (ENR May 14, p. 27), the Seattle District Office of the Army Engineers has awarded an $18,990 contract to Pioneer Drillers of Tacoma for exploratory drilling. Slides may be due to changing water levels in connection with Grand Coulee power plant.

• **Heavy Canadian rainfall**—All summer rainfall records have been shattered in recent weeks in Alberta, Saskatchewan, and Manitoba, dealing construction programs a crippling blow. Meteorologists claim it is due to a complete change in the normal pattern of air movement over North America. They say it's the reason why Texas is plagued by drought (ENR July 30, p. 25). It is pointed out that normally Texas is dampened by currents of warm air which come in from the Gulf of Mexico and drop their excess moisture on this state. This year, however, air currents are coming in from the Atlantic seaboard, sweeping northeast across the continent and dropping their moisture in unexpected places. The Province of Manitoba is suffering most. Current construction program of the provincial government, for example, is 40% behind schedule.

Mediators take over Oak Ridge rift

President Eisenhower's new Atomic Energy Labor Relations Panel has taken over mediation of the wage dispute which caused the first production strike in two of the three Oak Ridge, Tenn., atomic energy plants July 27 and 28.

Striking 3,500 AFL production workers—plus an additional 6,000 construction men who refused to cross picket lines—ended a two-day walkout July 29 after union leaders bowed to a joint request by Secretary of Labor Martin Durkin and Atomic Energy Commission Chairman Lewis Strauss to let the Presidential panel review the dispute.

As a first step toward breaking the deadlock, panel chairman Thomas W. Holland called a meeting of labor and management representatives late last week.

• Wage increase wanted—The AFL production workers want a 10½-cent hourly wage increase instead of the 5-cent boost offered by the Carbide and Carbon Chemicals Co., operator of the three Oak Ridge plants. (The five-cent raise already had been accepted by CIO workers in the third plant.) The workers' present scale ranges from $1.51 for laborers to $2.49 for technicians.

One factor behind the larger AFL demands is that it wants to get at least the 8½ cents won by the CIO steelworkers at an Alcoa plant nearby. Another reason is that rents in government-owned housing are going up 28% to bring them up to private rents in the area.

Oak Ridge AFL leaders, who had been asking for re-establishment of the panel for months, rejected the original government pleas to delay the strike action while the atomic panel considered the dispute.

• Strike complications—White House delay in reorganizing the Atomic Energy Labor Relations Panel complicated the strike situation. Eisenhower fired the panel—which prevented atomic production walkouts in the past—last March. He didn't appoint Cyrus Ching as new chairman until May and didn't give him any members until just a few days before the strike began.

Federal mediators considered turning the strike threat over to Eisenhower for issue of a Taft-Hartley injunction, but this would have been embarrassing on two counts: (1) the atomic panel had not been utilized and (2) Whitley McCoy didn't want to put a strike threat in Eisenhower's lap as his first move as new mediation chief.

The AEC rent increase may also stir up some trouble with the CIO. Both unions consider the rent increase a "pay cut." They expect a private outfit to buy the houses as soon as the rents are up. Rep. Barker and Sen. Kefauver, both of Tennessee, have introduced a bill in Congress to require the AEC to sell the houses to any occupants who wish to buy them at a fair price.

Siciliano appointment completes top labor staff

Construction industry relations are well represented among officials who will run the Department of Labor for President Eisenhower.

Eisenhower completed his top Labor Dept. staff with the appointment of Rocco Carmine Siciliano of Chicago as an Assistant Secretary of Labor. As labor relations supervisor for Procon, Inc., Siciliano has negotiated labor contracts with AFL building trades unions in connection with the construction of oil and chemical processing plants. He is also on the labor committee of National Constructors Assn., whose members specialize in construction of oil, chemical and steel facilities.

Construction Strikes

There were four strikes in June involving more than 10,000 workers, and all were in the construction industry. In all, 400,000 workers were idle 3,750,000 man-days in 725 strikes during the month, according to the Bureau of Labor Statistics.

June strike loss was slightly higher than May, but for the first six months the total strike idleness of 12,600,000 man-days was 40% below the first half of last year.

The big June construction strikes:

Philadelphia—20,000 AFL carpenters, ironworkers, plumbers and steamfitters from May 1 to late June.

Northern California—50,000 AFL hod carriers, beginning June 3 and still in effect according to last reports, although number on strike has dropped to 20,000.

Paducah, Ky.—11,000 members of AFL crafts on F. H. McGraw Co.'s atomic energy construction, from June 4 to 17. Painters struck, other crafts respected picket line.

Utah—14,000 members of six AFL crafts, from June 1 to 29.

More wage pacts signed showing 10 to 15¢ hikes

Most wage increases reported this month to ENGINEERING NEWS-RECORD are falling in the 10-15-cent-an-hour range.

Of the 19 skilled trades, 12 report increases in the 10-15-cent range. But some larger increases were reported, ranging from 17 cents per hour for carpenters in Baltimore to 25 cents for structural ironworkers in Denver.

Common labor—with eight cities reporting—shows five cities with increases within the 10-15-cent bracket. The other cities show smaller increases—7½ to 8 cents per hour.

• Not many left—Most unions in the 20 cities upon which ENR bases its reports already have signed new wage contracts.

Structural ironworkers have signed new contracts in all but three cities, bricklayers in all but four cities and common labor in all but two.

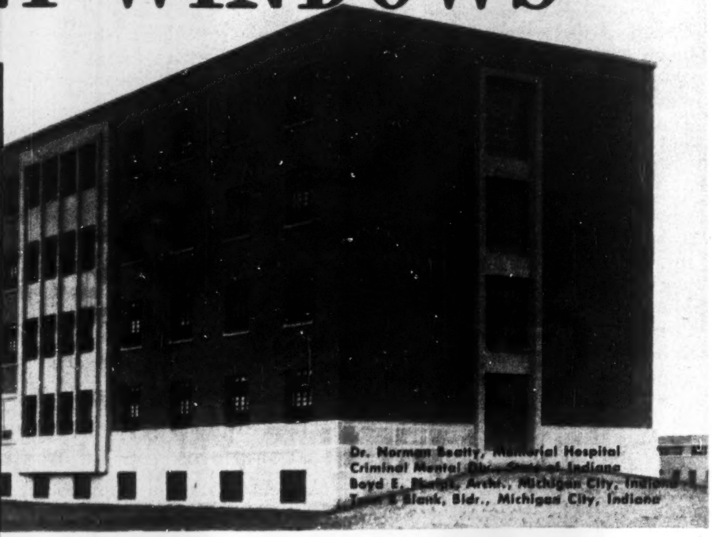
Labor briefs . . .

• Texas strike continues—A shutdown in the Sabine, Tex. area continued this week with no signs of a break as the strike of 2,160 carpenters and millwrights kept 10,000 construction workers idle for the third week.

• Labor racketeering—An AFL leader in charge of a labor pool for atomic energy projects in the Paducah, Ky., area and Southern Illinois was indicted for alleged labor racketeering. Evan Dale, president of Southern Illinois District Council of the AFL laborers union, and L. A. Thompson, another AFL officer, were also indicted on a charge of conspiring to violate the anti-racketeering law.

• Cincinnati carpenters—The 45-day strike of Cincinnati carpenters ended when agreement was reached for a 17½-cent hourly wage boost effective July 28, another 5 cents on Feb. 1, 1954 and another 5 cents June 1, 1954. The new scale is $2.87½.

Where the *other* services also count – it's always
BAYLEY WINDOWS



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Criminal Mental Div., State of Indiana
Boyd E. Phelps, Archt., Michigan City, Indiana
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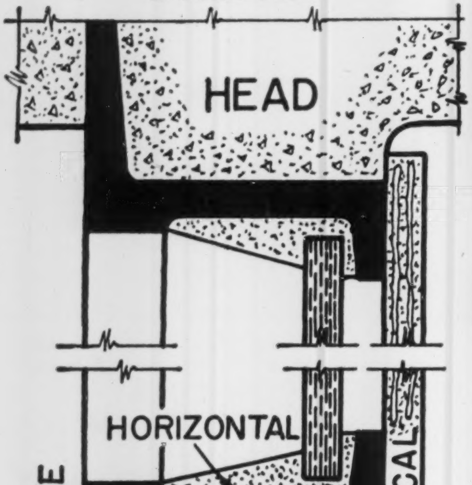


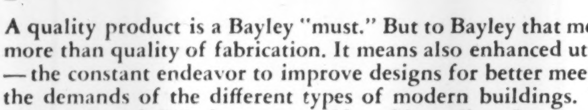
Bayley Guard Windows combine detention guard, ventilator and screen in single unit

A quality product is a Bayley "must." But to Bayley that means more than quality of fabrication. It means also enhanced utility — the constant endeavor to improve designs for better meeting the demands of the different types of modern buildings. The Bayley Guard Window exemplifies this policy. It provides buildings designed for detention with a specialized window offering such features as:

> **Ventilator and ventilator frame fabricated as a unit, for later attachment to the guard in the field • Guards may be shipped in advance of the ventilators, for setting in masonry walls • Ventilator hardware is shop-attached for better fit and operation • Ventilator attachment can be done during the finishing stages of construction, thereby preventing damage to contacts, hardware and finish • Glazing and painting of ventilators may be done separately, under most favorable conditions • Screens are installed from the inside, between the guard and ventilator, protect guard portion in ventilator from tampering.**

Whether your needs call for a guard window of this type, or a window of different utility you'll find extra values in Bayley's years of specialized window experience. Write or phone.

See Bayley in Sweet's. Complete catalogs on aluminum windows, 16a/Bay; steel windows, 16b/Ba; Hospital Detention Window, 16b/Bay.



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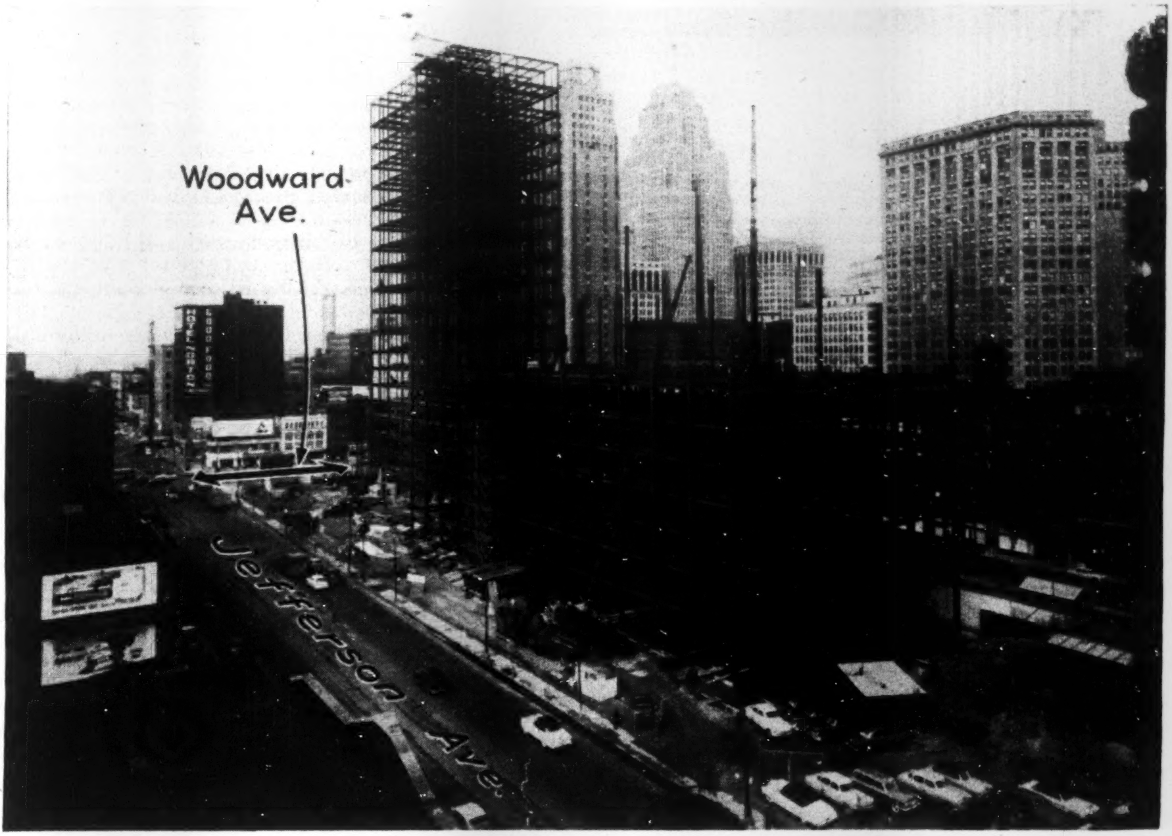


CITY-COUNTY BUILDING takes shape in Detroit, Mich., as erection of 20-story structural steel frame is completed.

More office space for the Motor City

Contract erection time for 8,200-ton structural steel frame of Detroit's City-County building was cut in half

Detroiters are accustomed to watching multi-million-dollar construction projects spring up in their midst, as both the city and private industry modernize and expand their various facilities to meet the needs of a bustling metropolis. During the first five months of this year, however, their attention was focused on one of the fastest steel erection jobs seen in the downtown area in a number of years.

It is the new City-County Building located near the foot of Woodward Ave.—the second unit in the Motor City's civic development program. City and county personnel are especially interested, since two years hence 4,000 of them will be provided with air conditioned office space in the tall, spacious and attractive building.

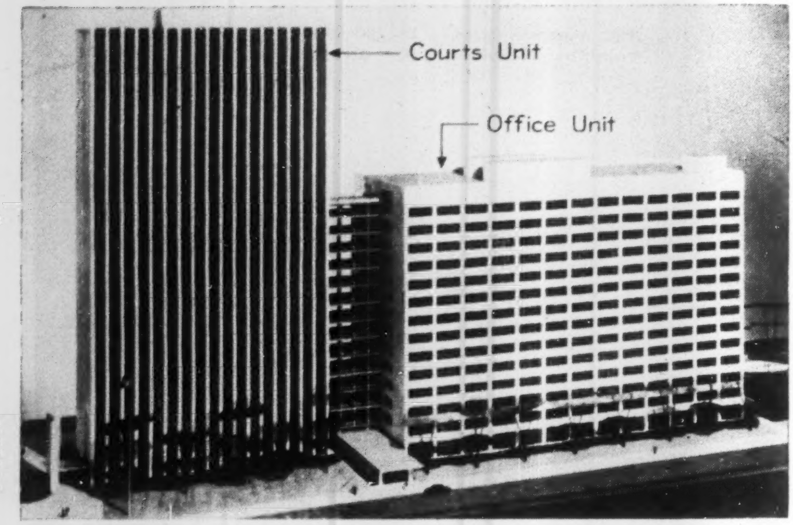
When completed in June, 1955, the $26-million building will be occupied by municipal offices of both Detroit and Wayne County; also the county's courts. As shown in the accompanying model photo, the building is made up of two units—commonly referred to as the "Courts Unit" and the "Office Unit"; joined together by a 14-story, 38x40-ft glassed-in link. As shown in the accompanying table of "Facts and Figures," the Courts Unit will be 20 stories high; the Office Unit, 14.

One interesting aspect of the project was the job of steel erection. Construction timetables called for erection of structural steel in eleven months—that length of time being considered necessary because of the three-story lengths of columns to be erected. Had the design permitted shorter columns, the time for erection would have been considerably less. But good management, efficient planning of fabrication and erection, and highly favorable winter weather permitted the steel erection to be completed on May 28 of this year—nearly 5½ months ahead of schedule. The Courts Unit is scheduled to be enclosed by Nov. 15 of this year, and the Office Unit by Nov. 15, 1954.

There was a complete lack of storage space. To complicate matters, previously completed basement areas surrounded the portion of each building in which steel was to be erected. Moreover, underground piping already in place, caisson foundations tied together with reinforced concrete struts, and openings for elevator pits—all offered an obstacle to the use of a crawler crane in setting base plates and erecting the first tier of steel columns.

These problems were overcome by an erection scheme which provided for separate erection of each unit. The 20-story Courts Unit was erected first, using two guy derricks set initially at the basement level by a truck crane.

Both derricks had 100-ft masts and 90-ft booms to provide proper reach. They had a 21-ton lifting capacity at close radius and 5.5 tons with boom horizontal. Maximum lift required was 12 tons. The columns in the Courts Unit were detailed in three-story tiers, instead of the usual two-



WHEN COMPLETED in 1955, the $26-million structure will furnish space in the 20-story Courts Unit and the 14-story Office Unit for about 4,000 workers.

story height, requiring fewer "jumps" of the derricks.

The two guy derricks erected the Courts Unit, then helped a third derrick of the same size erect steel in the Office Unit. The third derrick erected the steel in the 14-story link, and was the first to start erecting the Office Unit.

• **No storage available**—The problem arising from lack of sufficient storage space at the congested site was solved by establishing a receiving yard adjacent to a railroad about a mile from the building site. Steel was unloaded, sorted and stored until needed for erection. It was hauled to the site by trucks driven over shored sections of the extended basement areas and picked directly from the trucks by the erecting derricks. This scheme functioned as planned, resulting in no congestion of material at the building.

The usual bottleneck in steel erection on big buildings—a lack of sufficient riveting gangs—fortunately was avoided in this case. The contractor used six riveting gangs to drive the 77,500 field rivets in the Courts Unit and 8 gangs for the 87,200 field rivets in the Office Unit.

• **Floor construction**—Decision to use lightweight floor construction and fireproofing saved an estimated 1,000 tons of structural steel and materially reduced the cost of foundations.

The elevator banks, toilets, stairways, and service shafts are grouped in the interior of each unit. The floors of these service cores and the first floor are of reinforced concrete. The remaining floors are of cellular steel flooring which also serves as electrical and telephone raceways. A 2½-in. lightweight concrete—weighing 80 lb per cu ft and having a 28-day compressive strength of at least 1,200 psi—covers the cellular flooring.

• **Reduced dead load 80 psf**—Fireproofing of structural steel, except in the service core areas where reinforced concrete was used, is a lightweight aggregate plaster. This, together with the saving in weight due to cellular steel floor construction, resulted in a dead load of about 80 lb per sq ft less than if conventional concrete floor slabs and conventional concrete fireproofing had been used in the job.

Installation of the 451,200 sq ft of cellular steel flooring was started Feb. 26, with completion set for Oct. 4 of this year.

The cellular steel panels are formed from 16-ga galvanized steel sheets. A 16-in. wide plate section, with a male-female type interlocking longitudinal joint on either side, forms the flat floor surface. A hat-shaped section 10 in. wide by 3-in. deep is spot welded to the underside of the plate section with welds at 2-in. centers on both sides of the hat section. This forms the cellular steel "beam," which is topped with 2½ in. of lightweight concrete after erection (see sketch p. 31). Maximum floor span on the job is 8 ft 6-in.

During erection the cellular steel beams are butted together, the cells

CITY-COUNTY—FACTS AND FIGURES

	Courts Unit	Office Unit
Floor area (sq ft per floor)	11,780	28,820
Height (stories)	20	14
Street to penthouse roof (ft)	318	198
Size (ft)	155 x 76	262 x 110
Story height (floor-to-floor):		
Basement (ft)	17	17
1st (ft)	16	16
2nd to 8th (ft)	12⅓	. . . .
9th to 20th (ft)	16	. . . .
2nd to 14th (ft)	. . . .	12⅓
Structural steel (tons)	3,750	4,450

Floors
Galvanized cellular steel (451,200 sq ft) used as electrical raceways;
2½-in. lightweight concrete fill, 80 lb per cu ft (max);
fireproofed underside with lightweight plaster; 150 psf live load.

Ceilings
Suspended acoustical, with fireproof plaster

Columns
Max. load 3,111 kips
Max. sections: 14 WF @ 320 lb, with 22x1¾-in. cover plates (582 lb per lin ft)

Foundations
126 bell-bottom concrete caissons on hardpan 115 ft below street level.
Shaft dia., 4 ft to 6 ft 2 in.; bell dia., 6 ft 2 in. to 12 ft. 2 in.
Bearing value, 25 ton per sq ft.

Location: Woodward, Larned, Randolph and Jefferson Avenues.

Owner: Detroit-Wayne (County) Joint Building Authority

Architects and Engineers: Harley, Ellington and Day, Inc.

Prime contractors
General Contractor—Bryant & Detwiler Co.
Caissons & Substructure—O. W. Burke Co.
Structural Steel—Bethlehem Steel Co.
Cellular Steel Floors—Detroit Steel Products Co.

aligned, and connected to the top flanges of the supporting stringers with two ¾-in. welds. A 16-ga galvanized steel cover plate 6 in. wide is tack welded over the butt joints and calked to form a continuous watertight surface.

The cells are enclosed by 16-ga galvanized steel closures welded at the ends of the cells (at walls, columns and interior concrete slab) to form electrical and telephone raceways. Electrical distribution to these cells is through a 6⅜-in. wide, 1⅜-in. high header duct fastened on top of the flat steel floor. A 3¼-in. dia hole protected by a smooth grommet is cut in the bottom of the header duct and top of the floor panels to permit feeding the wires into the cells. Electrical or telephone outlets can be placed anywhere on the cell serviced in this manner.

• **Bomb shelter**—One unique feature of the building is that two portions of the basement area extending outside of the building lines are designed as bomb shelters. Normally they will contain service facilities such as switchroom, toilets, offices, and a cafeteria.

The 16-in. reinforced concrete roof slab over these two areas, measuring roughly 460x75 ft and 340x40 ft, is designed for a live load of 1,000 lb per sq ft. The roof is supported on mushroom, drophead panel-type reinforced concrete columns carried on a 2-ft thick floating slab. The first floors of both units are designed for a live load of 250 lb per sq ft, to permit using their basement areas as bomb shelters.

• **Pivoting windows**—The building will be completely air conditioned and, although the windows can be opened, this will be done only for washing. They are an aluminum pivoted type which can be completely reversed for washing from the inside. The lighting will be fluorescent, recessed into the suspended acoustical ceilings.

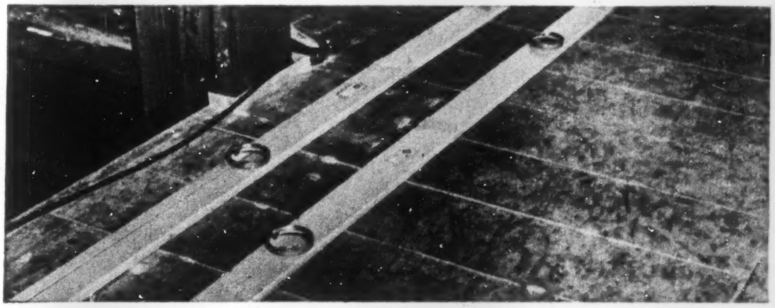
There will be 8 high-speed elevators in the Office Unit and 7 in the Courts Unit—one of which will be a private elevator for the use of judges and prisoners. The elevators will operate by electronic controls, at 800 fpm.

• **36 courts**—There will be 36 courtrooms in the Courts Unit, located above the 8th floor. The lower 8 floors will contain offices. One unusual feature in this building is the council chamber and meeting room of the board of supervisors. Located on the 13th floor, this 85x85-ft room will receive daylight through a window 25 ft high and 98 ft long.

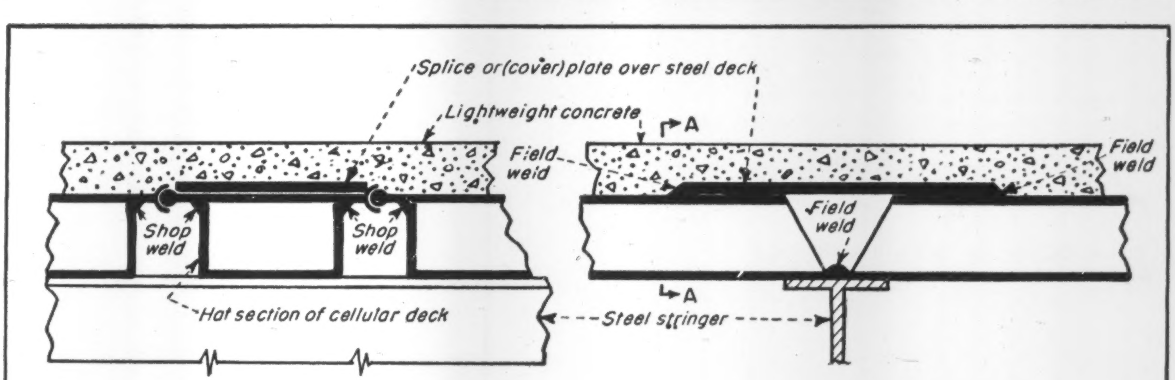
The floor of this huge room is arranged as an amphitheater. The seating area, which will accommodate 500 persons is roughly a quarter-circle. Its rear portion cantilevers 14 ft from a circular wall, providing a lounge room under the cantilever portion.

• **Men in charge**—Malcolm R. Stirton was in charge of designing the $26-million building. Benson J. Wood is chief structural engineer; Fred Hildebrandt, in charge of construction; and R. C. Mauck, project superintendent for Harley, Ellington and Day, Inc., which also designed the Veterans Memorial Building—first unit in the Civic Center (ENR, Sept. 30, 1948, p. 68).

Fred Fletemeyer was general superintendent for O. W. Burke Co. on their $1.7-million caisson and substructure contract (ENR Dec. 6, 1951, p. 44). George Wood is construction superintendent for Bryant & Detwiller Co., on their $16.9-million general contract; Dan Moak is erection manager, and Woodrow Stewart is construction superintendent on the Detroit Steel Products Company's $550,000 contract for furnishing and erecting the cellular steel flooring; and Clarence Lowman is general superintendent on the Bethlehem Steel Company's $2,255,000 contract for furnishing and erecting the structural steel.



FLEXIBILITY of electric wiring, during construction and in the future is afforded by the cellular flooring. Handholes can be installed in the header ducts and flooring at any desired location, while junction rings can be adjusted to proper height, to serve as screed lines for the lightweight concrete fill.



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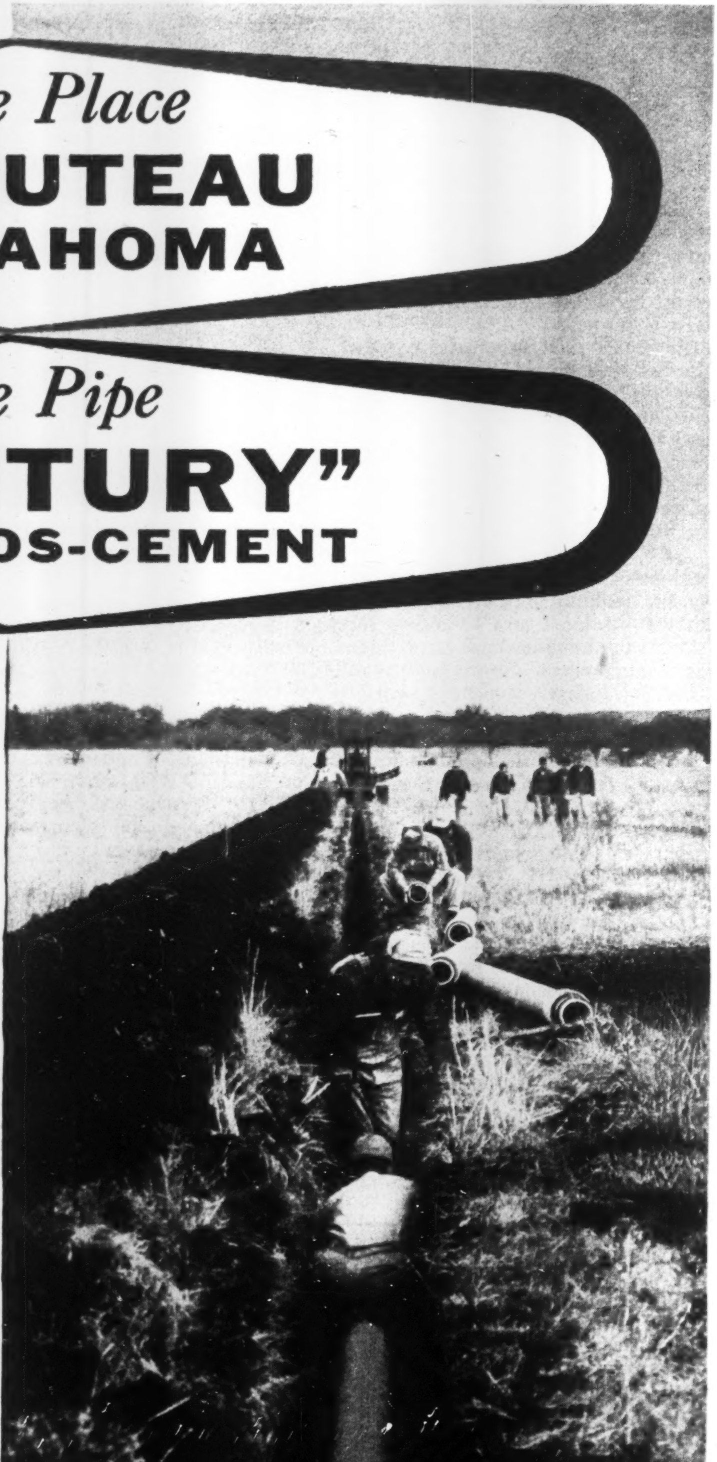
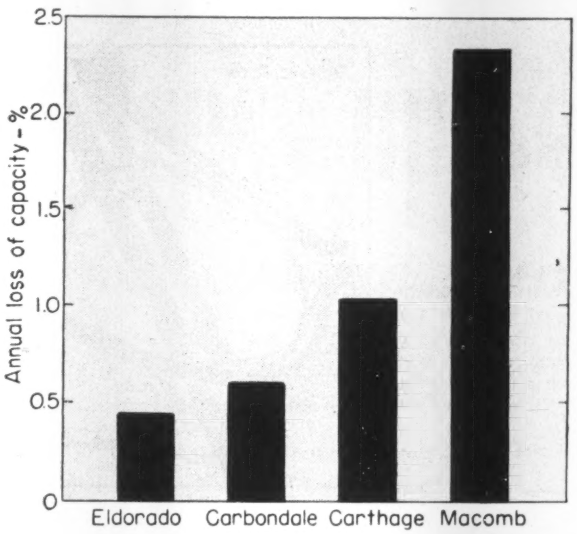
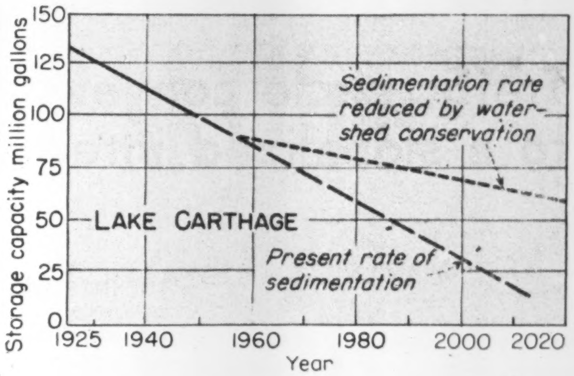


"Century" pipe installation from Grand River Dam to the City of Chouteau, Oklahoma. Engineers: Hoil Engineering Corp., Contractors: Eagle Construction Co., both of Tulsa.





ILLINOIS RESERVOIRS ARE SILTING UP (left) but study of each individual case indicates how the rate can be cut (above).

Costly reservoir silting can be slowed if vital facts of situation are known

Silt steals $950 worth of reservoir every year from Carthage, Ill. (pop. 3,214). In 23 years, 24% of the town's original reservoir capacity has been lost to silting.

This situation is worse than in some other places in Illinois, but not half so bad as in some others. The significant thing is that the situation is known through a recently completed investigation by the State Water Survey Division, under A. M. Buswell.

Illinois State Water Survey has concerned itself with the silt problem since 1936, and in the last five years half of its 18 reports of investigations have been on silting in some reservoir or other. (Also investigated: Radar for tracing storms, groundwater resources, and turbidity and temperatures of rivers.)

Cooperating in study with the Soil Conservation Service, Department of Agriculture, the Illinois Agricultural Experiment Station and the water department of Carthage, Mr. Buswell's forces have given this small city—as they have given others—a picture of its problem and recommendations for its solution.

- **Of grave concern**—Carthage used well water until 1926, when it built a dam to form Lake Carthage on Long Creek, northwest of town. A 39.7-acre (132.8-mg) reservoir formed on a 2.9-sq mi watershed. The city also built a filter plant, and all went well for a while.

But by last year, with growth of the city (and shrinkage of its reservoir) Carthage could expect a drought—once every four years—a drought serious enough to threaten water shortage.

The situation will worsen. Per capita daily use, now at 71 gal is expected to go to 100 gal. Population is expected nearly to triple by the year 2,000.

All of which makes these silt survey findings of immediate interest to Carthage:

- 86.6% of the watershed is safe for continued cultivation if conservation methods are instituted (98.1% was under cultivation at time of survey).
- 80% of the watershed had less than 4% slope; poorly drained prairie soil-groups cover most of the area.
- A disproportionate amount of severe erosion was found in pastures where productivity was found less than 50% of what it could be if reseeded, fertilized and mowed.
- Indications are that sheet erosion accounts for 82% of total sediment in Lake Carthage; gully erosion accounts for 18%.
- Two-thirds of the silt now reaching the lake could be stopped at its source by a watershed treatment program—soil treatment and gulley control.
- Contour farming, a part of the conservation farming program, can increase crop vieds about 15%, while cutting labor, power and machinery costs over $1.50 per crop acre.

- **From these findings**—come recommendations. Carthage is urged to undertake immediately a program of watershed treatment to prolong useful life of its reservoir. The city should (1) financially aid the local conservation district in its efforts toward conservation and (2) purchase at least the critical erosion areas on its watershed so as to be able to apply needed conservation measures, estimated to cost about $25 per acre on the average.

Carthage is also advised by the silt students to engage qualified engineering advice on adequacy of its present water system to supply present and future needs. Correction of the conditions causing silting of the lake will not solve the whole problem.

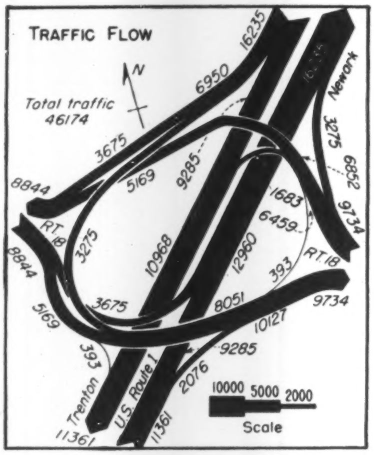
- **Survey methods**—The range method of survey was used (see Soil Conservation Service Bulletin No. 524, available through the Department of Agriculture) for measuring sediment. Lake area was established by aerial photography. (It was found to have diminished from 39.7 to 36.1 acres in 23 years.)

Greatest losses of storage volume were found at heads of two arms of the lake where deltas have developed and are growing.

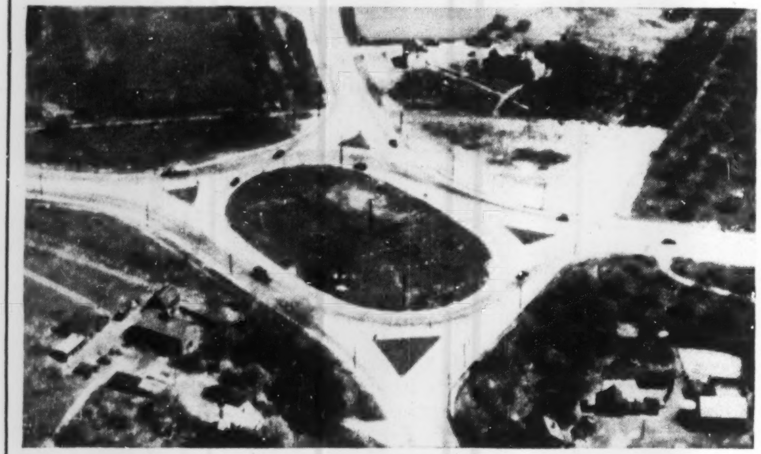
J. B. Stall was chief of the State Water Survey field party that made the silt studies on the lake. G. R. Hall, sedimentation specialist for the Soil Conservation Service studied and recommended the conservation methods. E. L. Sauer, project supervisor, made the cost-benefit comparisons of conservation. S. W. Melsted interpreted soil samples in the Illinois Agricultural Experiment Station. And Roy Metz is waterworks superintendent in Carthage.

The 58-year-old Illinois Water Survey Division is within the State Board of Natural Resources and Conservation. Its staff of 48 engineers and chemists is housed in the new half-million-dollar Water Resources Building, which was dedicated in October, 1951, adjacent to the engineering campus of the University of Illinois. The Water Survey boasts a past of accomplishment and lists an impressive alumni.

Traffic circle converted to a signalized intersection



THE INTERSECTION after the north-south route had been cut through the traffic circle. Within the circle and for a short distance to the north, a fourth lane was added to the three northbound on Route 1.



TWENTY-FIVE YEARS AGO a traffic circle (upper picture) was built where a principal route to New Jersey seashore points crossed U. S. Route 1, the main north-south route through that state near New Brunswick. Last year, to give the intersection greater capacity, the main north-south route was cut through the circle and traffic lights were installed.

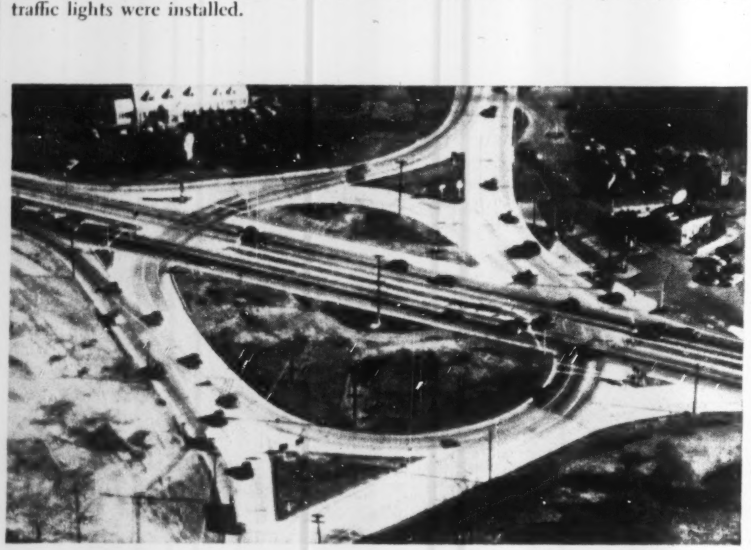


Photo by M. Ostergaard

Changing trends in thinking about how best to handle large volumes of traffic at important highway intersections are exemplified by the reconstruction of the intersection of U. S. Route 1 and New Jersey Route 18 on the outskirts of New Brunswick, N. J., which was completed late last year.

In 1932, when U. S. 1 was relocated to get its mounting traffic off of the streets of New Brunswick, a traffic circle was built where the relocated highway crossed Route 18—one of the main highways to New Jersey shore resorts. Such circles then were considered the best solution of an intersection problem, short of complete separation of grades, which would have been costly at that point.

The traffic volume then (1933) had reached an average annual daily volume of 17,565. By 1940 this figure had climbed to 29,156, which volume resulted in serious congestion at times of peak load. In 1951 the volume rose to 56,000, making it necessary to use traffic officers to alternate the flow of traffic during morning and evening rush hours. Traffic frequently backed up for a mile along the approach roads.

The capacity of a traffic circle is governed by the capacity of its weaving area. A satisfactory capacity (or design capacity) is 1,950 cars per hour. At the New Brunswick circle volumes of 3,100 cars per hour were reached by 1941, whereas the absolute volume of the weaving areas is only 3,200 cars per hour.

• **Cloverleaf no answer**—This led to consideration of remedial measures. Study was given to a grade separation of the cloverleaf type, but at New Brunswick site, cost would have been well over $1 million, and because of the amount of traffic needing to move from one highway to the other at that point, the volume of interchange traffic

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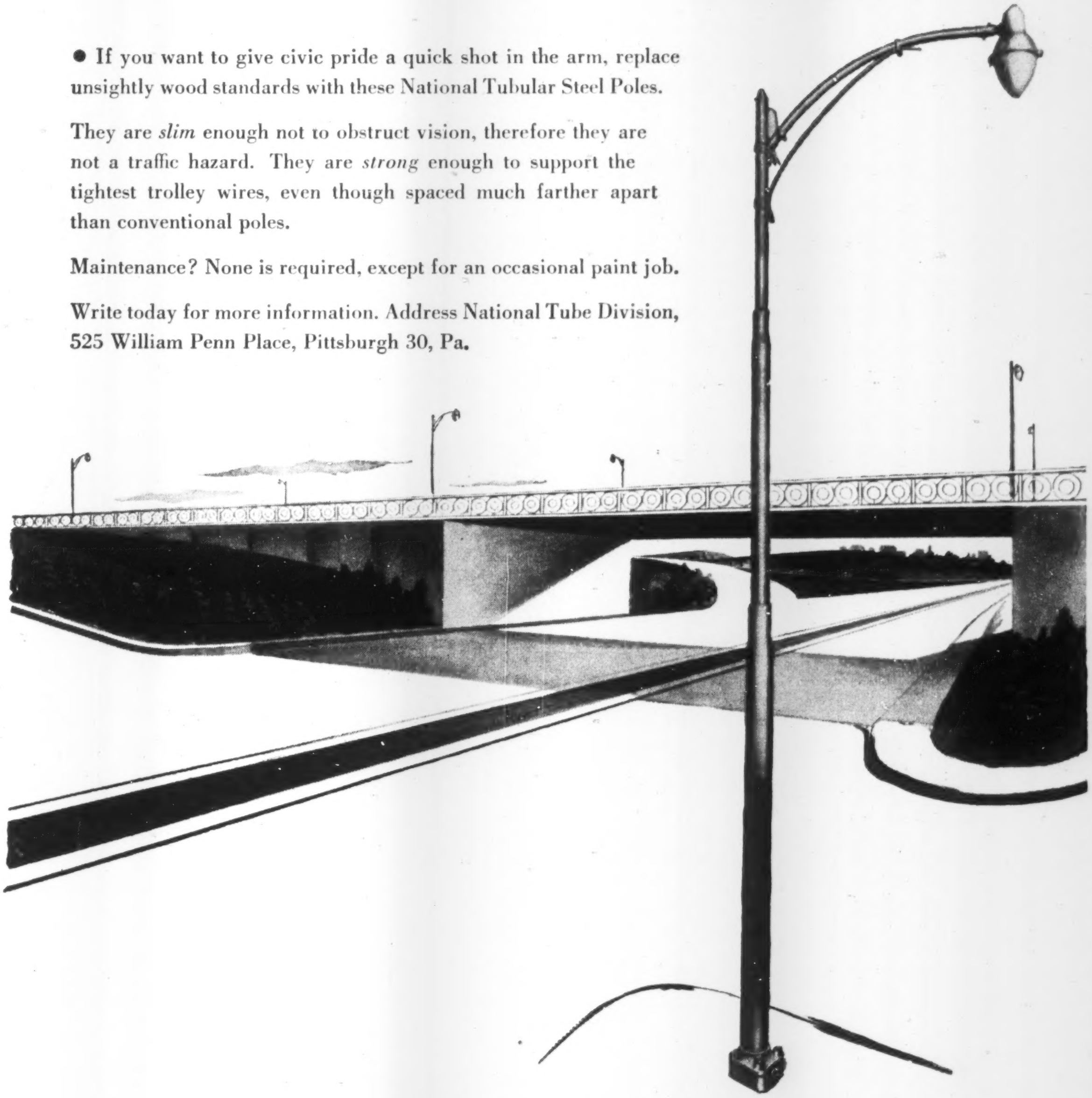

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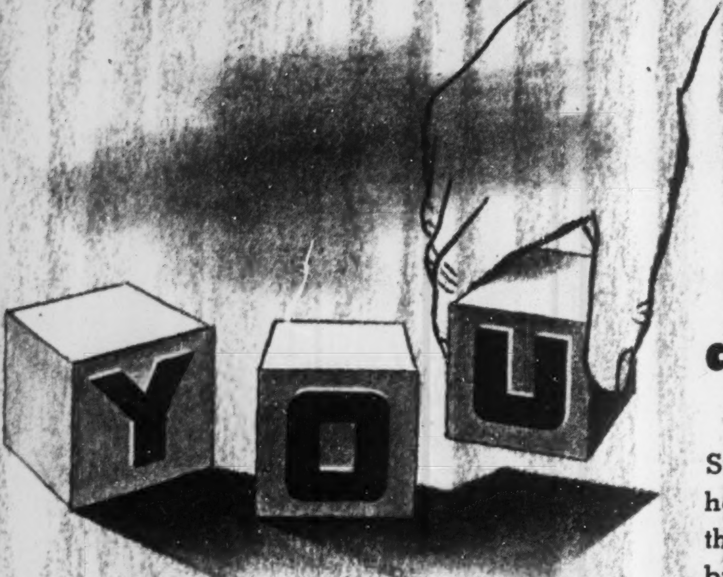

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Outside of his office, you can see the wholesaler assuming an active role in community affairs — in church, in neighborhood clubs, in charities. These are the times the "YOU" attitude means devotion to fellow men and their problems.

Yes, the wholesaler is quite a guy. Most of the good things in the American way of life are as a result of the activities, not only of wholesalers, but the plumbers, refrigeration service engineers, and others.

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would have been close to the cross-weaving capacity of a cloverleaf type of crossing.

For example, the cloverleaf at Woodbridge (where N. J. Route 35 crosses U. S. 1) becomes congested when the entering volume reaches 66,000 cars per AADV. In New Jersey there are channelized intersections at grade (with traffic signals) that carry an average annual daily volume of 65,000 cars without congestion.

Hence a decision to reconstruct the New Brunswick interchange and to install traffic signals as the means for solving this traffic problem.

The layout of the reconstructed circle is clearly shown in one of the accompanying air views, which was taken looking east along Route 18. All lanes of U. S. 1 are carried directly through the old circle, and traffic signals have been installed at four points on that highway and at two points on 18, as indicated by the painted stop lines. In this area, U. S. 1 is a 4-lane divided highway, but at the intersection it widens to a 6-lane divided highway. Within the circle a fourth lane has been added northbound to accommodate the heavy volume of traffic turning north from Route 18.

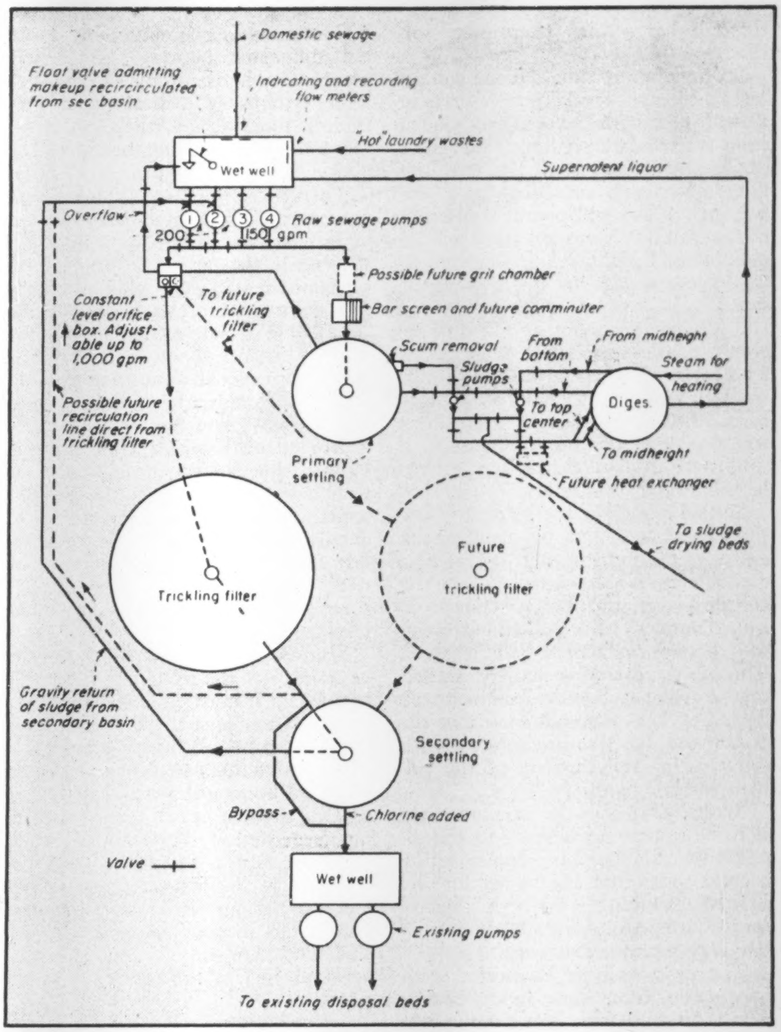
• Signals solve it—Traffic signals at this intersection now have a fixed time, which is 44 seconds green for Route 1 and 33 seconds green for 18 out of a 90-second cycle. The remainder of the time is used by ambers and all reds. At the end of the "go" period, traffic gets a red signal of 2 seconds (or 3 seconds for the other direction) before the crossing traffic gets a green signal.

Underground conduits have been laid to points back of the intersection on each highway to permit the installation of a traffic-actuated cycle-selector system at some future date.

Advance direction signs are installed along Route 1 to instruct drivers of vehicles desiring to make a left turn to turn right initially.

The change has eliminated all the congestion that had tied up traffic badly at this point. And the intersection should have an adequate capacity for many years as the New Jersey Turnpike has taken part of the traffic load, cutting the annual average daily volume from 56,049 in 1951 to 46,174 in 1952. Total cost of the revamping was $188,000.

This is one of four intersections given similar treatment by the New Jersey Highway Department. This work was carried out under the general direction of Edward W. Kilpatrick, state highway engineer. W. R. Ellis is chief of the Traffic Design and Research Section.


Domestic sewage
Float valve admitting makeup recircirculated from sec basin
Indicating and recording flow meters
"Hot" laundry wastes
Wet well
Supernatent liquor
Overflow
1
2
3
4
Raw sewage pumps
200
150 gpm
Possible future grit chamber
Constant level orifice box. Adjustable up to 1,000 gpm
To future trickling filter
Bar screen and future comminuter
Scum removal
From bottom
From midheight
Sludge pumps
Steam for heating
To top center
Diges.
Possible future recirculation line direct from trickling filter
To midheight
Primary settling
Future heat exchanger
To sludge drying beds
Future trickling filter
Trickling filter
Gravity return of sludge from secondary basin
Secondary settling
Bypass
Chlorine added
Valve
Wet well
Existing pumps
To existing disposal beds

For cooling down "hot" laundry wastes . . .

AEC builds first full-scale plant for radioactive wastes

The nation's first full-scale sewage treatment plant specifically designed to handle radioactive wastes along with domestic sewage is under construction at the Atomic Energy Commission's National Reactor Testing Station near Idaho Falls, Idaho. A. L. Biladeau, sanitary engineer in the Idaho Operations Office of AEC, describes it in a report just released.

Designers Horner and Shifrin of St. Louis, Mo., have provided a fairly standard trickling filter layout. Special provisions are mostly measurement, control and recirculation devices for determining and maintaining best possible operating conditions.

Research at Los Alamos, N. M., (ENR Nov. 8, 1951, p. 37) had established that standard processes for secondary treatment of sewage, either trickling filter or activated sludge, show promise as economic means of concentrating radioactive wastes. Trickling filters were chosen for this installation as more adaptable than activated sludge to the varied flow of the sewage and "hot" laundry wastes to be treated.

• The process—Domestic sewage and contaminated laundry wastes will enter the plant through separate lines, precisely measured by recording flow meters. Entering a common wet well, the combined flow is to be pumped through bar screens to primary settling.

Sedimentation tank effluent will go by to a constant level orifice box where it will mix with recirculated sludge from a secondary settling tank before discharging at a constant rate onto the filter. (Variously sized calibrated orifices in the box will permit regulation of rate of flow. Constant head will be maintained by an overflow weir returning excess sewage to the pump wet well.)

Trickling filter effluent will flow by gravity to the secondary settling basin. The basin effluent will discharge to a wet well that acts as a chlorine contact basin. From here sewage lift pumps will discharge the final effluent to a subsurface disposal field where it is to be monitored for safety.

Settled sludge in the secondary settling basin will flow by gravity back either to the influent wet well or to a recirculation pump which lifts it to the constant-level weir box. A float-controlled butterfly valve located in the wet well determines which path it takes. This valve passes secondary settled sewage make-up liquid to the wet well during periods of low flow so that the pump will have sufficient sewage to discharge at full capacity to the primary settling basin.

Sludge settled in the primary basin is to be moved periodically to the digester by a sludge pump controlled by a cycle timer that can be set for any desired pumping cycle. A second sludge pump will continuously recirculate digester contents.

The digester is to be heated with live steam from the laundry boiler plant. All gas (there won't be much) will be wasted through a flame trap. Scum formation is expected to be prevented by maintaining a full digester and constantly agitating the surface exposed in the gas dome by discharging recirculation flow there.

Digested sludge will be pumped to drying beds. Valves permit the same sludge pumps to be used for this. Conventional open drying beds will be used, with care taken to return all drainage water back to the plant's wet well.

• **Filter action**—The single trickling filter (there's a second one in future plans) is figured to pass from 1 to 4 mgad (million gallons per acre of surface per day).

It is reasoned that some radioactive material will be absorbed by bacteria growth on the filter stone. Because this growth will occasionally slough off and carry its contamination with it, the secondary settling tank is being made larger than is standard practice to be more sure of recapturing the passed radioactive material.

• **Continuous recirculation**—An essential difference between the NRTS plant and other conventional trickling filter systems is utilization of continuous recirculation, with the resulting total filter loading being a little above standard design.

This variation from conventional procedure is based on research findings at Los Alamos, where tests indicated that while the rate of loading of the contaminated waste plus domestic sewage to the filter gave good results at about 1 mgad, recirculation ratios of 5 to 1 and above gave the most satisfactory over-all absorption of radioactivity. That is, the minimum total application rate to the filter should be approximately 6 mgad. High ratios of recirculation appear necessary if effective removal of radioactive contaminants are to be realized. Rates of recirculation 5, 10, and 15 times the flow-through rates of the pilot plant were tried, but it was found that 5 times produced sufficiently satisfactory results.

Studies further indicated that return of solids to the trickling filter was beneficial. It must be realized that the accumulation of such solids in a trickling filter eventually would require that a portion of them be disposed of elsewhere, either continuously or intermittently. Because of the special requirements needed in the treatment of radioactive wastes, flexibility has to be provided in the plant so that recirculation at various rates, intermittent or continuous disposal of secondary settled solids, and other methods can be accomplished in the operation of the plant.

• **No retention needed**—Studies showed that a tank to hold wastes from the laundry operation and feed them to the treatment works in a steady flow was not really necessary. Such a tank would not help inflow over weekends when the laundry was shut down. The well and primary settling tank would act as dilution and retention chambers to an extent. So the plant is being built initially with no special tank for retention.

• **Pumping**—Initially, three non-clog bladeless sewage pumps will do the work at the NRTS plant. Float levels in the wet well will control operation automatically.

In normal operation pump No. 3 will run continuously, with make-up water added when sewage flow is low. When sewage and waste flow is high, make-up water will shut off automatically and pump No. 2 will operate intermittently (also automatically) to help out No. 3.

Normally, the No. 1 pump will be used for recirculation, pulling secondary sludge back to the constant-level orifice box.

Installed pumps and valves will give a great deal of flexibility. Proper use of valve even makes it possible for the plant to be run in an entirely conventional manner. Also, the whole plant could be by-passed, flow going into an existing septic tank, should some emergency arise.

• **Monitoring**—Ratio of domestic sewage to laundry waste is estimated to be about 10 to 1, but the amount of radioactive contaminants that would be present in the laundry waste is not known accurately. Amount of contamination reaching the plant from the laundry will be partially controlled at the laundry by monitoring the waste as it leaves the laundry and by discarding garments which are grossly or dangerously contaminated. The contaminants are expected to be principally mixed fission products.

The probability exists that the digested sludge will contain so much radioactivity that special handling may be required. Provisions will be made for monitoring the laundry waste inlet line and also the final basin effluent line. Monitoring of the digested sludge will be required each time it is withdrawn for drying.

Special operating records are planned which will indicate the percentage removal of all radioactivity. Mr. Biladeau says that since this will be the first full-scale plant completed for the removal of radioactive contaminants along with the treatment of domestic sewage, all operations will be supervised closely and records maintained to determine the future of such combined treatment plants.

◆

Milwaukee officials act to reduce sanitary flow

Connection of foundation drain tile to city sanitary sewers is prohibited under a new ordinance passed at Milwaukee. All buildings erected after Jan. 1, 1954 must have their drain tile connected to the storm sewers.

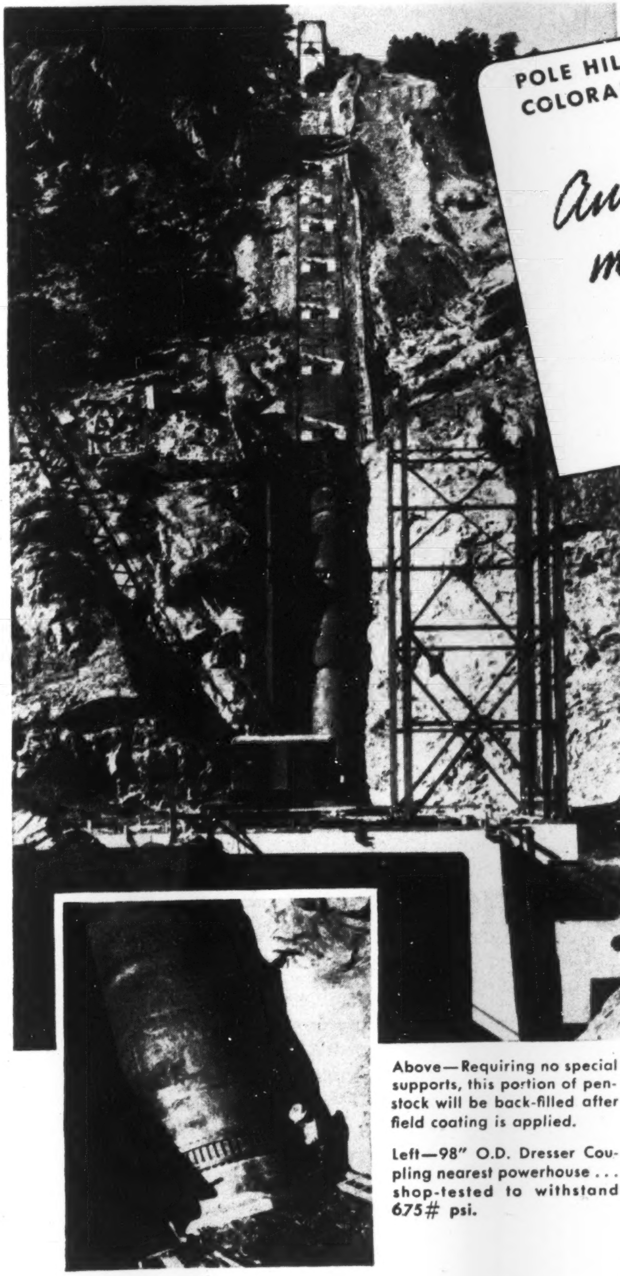
Builders have been connecting foundation drains to sanitary sewers for many years, particularly in areas where storm sewers have not been built far enough below ground level to drain foundations.

The city has agreed to build its storm sewers deeper wherever possible, but where shallow storm sewers already are in the ground, sump pumps will be required to comply with the new ordinance.

The purpose of the ordinance is to keep as much storm water out of the sanitary sewers as possible.

POLE HILL,
COLORADO

Another Penstock job made easier with DRESSER COUPLINGS



Above—Requiring no special supports, this portion of penstock will be back-filled after field coating is applied.

Left—98" O.D. Dresser Coupling nearest powerhouse . . . shop-tested to withstand 675# psi.

Lighter, high-tensile steel pipe saves tonnage, cuts shipping costs, speeds installation of Pole Hill penstock.

A part of the Colorado Big Thompson Project, the 98" Pole Hill penstock carries water to a power house near Loveland, Colorado. The bed for this penstock is on a 34° slope, much of which was cut out of solid rock. To make this difficult construction job easier and more economical, U. S. Bureau of Reclamation engineers specified a Dresser-Coupled installation.

Dresser Couplings permit the use of high-tensile steel pipe. Thinner pipe walls *save up to 25% of total penstock weight*. Longer pipe lengths mean fewer joints and fewer anchors to prevent progressive creep. High-tensile steel pipe can be Dresser-Coupled with a minimum of time, skill and heavy equipment. The "give and take" in Dresser Couplings eliminates all problems of expansion and contraction. Permanent, bottle-tight joints are assured.

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Even the smallest GMC pickups are "built like the big ones" to defy the wear and tear of construction work. Now available with extra-high-compression engines and Truck Hydra-Matic,* light-duty GMC's are more powerful—more economical and longer-lived than ever before.

*Optional at extra cost.

THERE'S no mystery in the way a big construction project shrinks when you put GMC trucks to work. Year in, year out, these rugged haulers *prove* that they can do bigger jobs and do them faster—with operating economies that swell the profits.

From the smallest pickup to the largest six-wheeler, GMC's outpower most other trucks in the field. The pay-off is crackling highway pace that squeezes extra trips into a day's work. And on the job-site, they really pour it on to hustle top tonnage through rough and rubble that would bog down ordinary trucks.

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But these are only a few of the many reasons you'll want to look over these great trucks at your GMC dealer's. You'll find their prices amazingly low. Then you'll know why more and more GMC's are working on the biggest construction jobs today.

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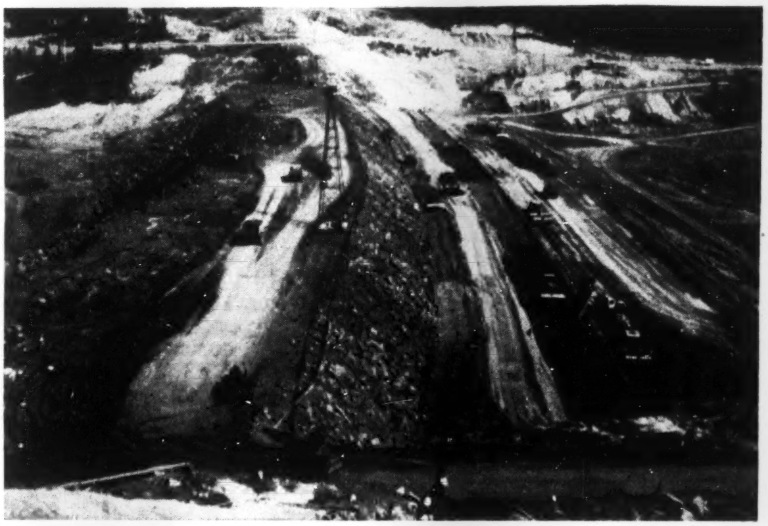


KENNEY DAM during construction. At the left center is the sluiced rockfill, and to the right, the filter and rolled-clay core are being placed.

Use of salt in clay core aids winter dam building

James B. Hays
Consulting and Construction Engineer
San Francisco, Calif.

Completion of the Kenney Dam of the Alcan project in British Columbia in the short 1952 season between the spring thaw and the fall freeze was the result of careful planning and some unusual tests carried out during the summer to determine the possibility of treating the impervious core material so that it could be placed safely during freezing weather.

This dam is a rockfill with a sloping rolled-fill core. Located on the Nechako River, it rises 317 ft above river bed to create a reservoir that will supply water for a large hydroelectric power project of the Aluminum Company of Canada (ENR Jan. 22, p. 35).

The main rockfill, which was sluiced, mostly was placed after May 1, 1952. Placing of the impervious clay core and the filters was started a month later, it being necessary to keep the sluiced rockfill well ahead of the core and filter section.

The triangular cross-section of the sluiced rockfill topped out at an elevation 40 ft lower than the top of the dam. Above this elevation the section was clay core, filters and rip-rap, but with the downstream slope of the clay and adjacent filters reversed to bring the profile to a top width of 40 ft.

• Speed a requisite—It was obvious, therefore, that while the placing of the rock had to be done as rapidly as possible, the clay had to be brought up quickly to the top of the rockfill and continued rapidly to the final height, if the work was to be done in one construction season. The best schedule that could be made showed that clay placement would be required until the latter part of November.

During 1951 there was considerable freezing weather beginning about the middle of October. Unless something could be done to protect the clay against freezing, it would be necessary to close down the job for six or seven months and complete the top section in 1953.

Preliminary studies and research indicated that common salt or calcium chloride could be used. The soil testing and control came under the supervision of R. M. Hardy, dean of the University of Alberta and also of the firm, Engineering and Consulting Services of Edmondton. Representing Dean Hardy on the job was W. E. Curtis. Extensive tests were carried out in the soils laboratory in Edmonton, Alberta.

It was found that the addition of salt in the small quantities required would be harmless. One percent, by weight of the clay, of salt was found to afford protection down to ten degrees F, two percent down to zero, three percent down to ten below. Since the freezing of clay lags behind the reading of the thermometer there is considerable leeway for judgment as to when the salt is required.

• Mixing a problem—One problem was the adequate mixing of the salt with the clay to prevent spotty salt-free areas that would freeze. The particular clay in question was a glacial boulder clay that required from one to two percent additional moisture. It had been found necessary to add the extra water in the pit rather than on the fill. After applying the water the clay was worked over and turned by a bull-dozer. Then, after a few days, the material was pushed into a stockpile at the lower edge of the clay pit.

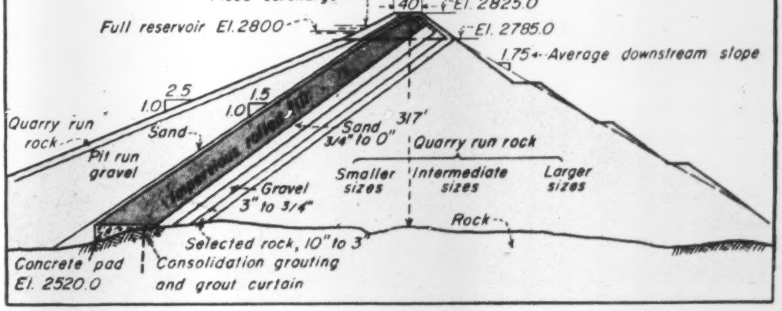
It was found that the salt could be added after the water had been added and during the processing operation. When the stockpiled material was ready for use the salt had dissolved and permeated the entire mass.

The weather during the fall of 1952 was much milder than 1951 and as a result comparatively little "salted" clay had to be used to keep the operations going without stoppage.

Consequently, so much salted clay remained as we approached the end of the work that all the top of the clay section was built of treated clay.

We also were prepared to salt the fine filter zone, but the mild weather made that unnecessary.

It was estimated that from $300,000 to $400,000 was saved by this practice.



CROSS-SECTION of Kenney Dam. Salt was added to the upper part of the impervious core to permit core placement to continue during freezing weather.

BUSINESS PROFILE

The Du Pont construction force: Engineering tomorrow's world

J. P. Chamberlain
Associate Editor

"Engineering is the art of doing that well with one dollar, which any bungler can do with two after a fashion."

A. M. Wellington's definition is a pet byword of Granville M. Read (cover), Chief Engineer of E. I. du Pont de Nemours & Co., Inc. Although the Du Pont company is full of engineers of many kinds—and a few of them are at as high or higher executive levels—Granville Read is Mr. Du Pont where the construction industry is concerned. He heads Du Pont's engineering department, the organization that built the Hanford atomic materials plant for the Manhattan Project and is carrying on for the Atomic Energy Commission at Savannah River, S. C.—a $1.3-billion project that may be the largest single construction job in history.

If you go to Wilmington, you won't find Chief Engineer Read in the big office buildings in the center of town where the other Du Pont departments have their headquarters. Du Pont's postwar expansion—plus the calling in of department headquarters once located in other cities—has overcrowded Wilmington office space.

To see Read, you have to ride 11 miles out of town to a brand new building with some striking features of its own, sitting in the middle of prosperous, rolling farmland. This is Louviers, where more than 2,200 engineering department headquarters people work, and itself a construction story.

Read is a big, outspoken man with a penetrating eye and a talent for remembering names and faces that has been compared with Jim Farley's. Suppliers who do business with him say he is a hard driver about keeping them up to delivery dates, loyal to those who have come through on schedule for him in the past, and skeptical about shifting his business solely on a price basis—though price is a most important consideration with him. In line with over-all Du Pont philosophy, he believes in giving subordinates full authority and holding them fully responsible for results.

In his youth, Read gave up his engineering courses at Virginia Polytechnic Institute to study art in pre-World War I Paris; today he might be said to be an artist at leading men. In the meantime, he has had a vast variety of engineering and construction experience, having held nearly every job in the engineering department since he joined it in 1915. He has also, according to friends, developed a Grade A poker game.

• Big, fast, cheap—If you ask Read why his department has played such a large role in the atomic construction program, he would tell you that Du Pont was picked because it is used to building big, fast, and economically.

That last word, "economically," is particularly important to Du Pont, which has been a fast-growing company for many years, yet has raised very little outside capital. Du Pont does not do its own construction merely because it is big enough and fast-growing enough to afford its own engineering department. The company is convinced that it couldn't afford not to have its own department, and that it wouldn't be so big, and so profitable, unless there was a completely integrated engineering force.

Granville Read and his lieutenants feel that their organization is 'way ahead in the construction industry. They think they can prove that engineering and putting up its own construction has saved Du Pont a good many millions of dollars, by developing techniques that most other construction men could study with profit.

• Nature of Du Pont—As everyone knows, Du Pont is in the chemical business, where things change so fast that you have to keep running to stay in the same place. You can't—Du Pont reasons—develop a few "hot" products and then concentrate on maintaining your share of the market against inevitably increasing competition. If you do, you run the risk of having new research developments leave your products at the wrong end of the parade. Du Pont emphasizes research and constantly ventures into new fields.

This means a constant stream of new construction—and plenty of it. Between the close of World War II and the end of this year, Du Pont will have spent nearly $1 billion for new plants. Hundreds of millions of dollars more will be spent in coming decades. Best proof of that is Du Pont President Crawford Greenewalt's observation that about half of the company's sales are in products that were unknown or in their commercial infancy 20 years ago.

Let's take a specific example of how the nature of Du Pont determines the way it builds. In 1950, the company's Textile Fibers department (see chart) wanted to produce Dacron polyester fiber in large volume, to supply what it foresaw would be big consumer demand, and to supply in time to meet competition of other synthetic fibers.

• Plant answers problem—The answer, ultimately, was a big plant at Kinston, North Carolina, which began commercial production last March. This plant turned out to be one of the biggest initial investments—$40 million—that Du Pont has ever made in any product.

Right from the start Kinston presented some tough problems: The production objective represented a scale-up of 30 times the size of the pilot plant. Nobody was sure at first how to produce in that volume. Unique vacuum and pressure problems were involved, and the raw material itself was literally sticky to handle. Research on the process went right along with design and construction.

First of all, the manufacturing department – Textile Fibers – presented Engineering with a "study request," containing "basic data"—desired capacity, proposed process, required startup date. At this point, the design division of Engineering carried the ball, although it had the help of every one of the four other divisions in the department (chart). Since there were many gaps in the basic data, it took about six months of study before a fairly complete picture began to emerge.

During these months, the "client" and the "contractor" decided what they wanted to build. (Even so, there were four major changes later, before plans finally jelled, some of which altered the entire layout of the main building.) An intensive research program went on concurrently with this preliminary design stage, and as part of it; and this was conducted both in Engineering and in the research division of Textile Fibers.

Client and contractor kept in close touch through weekly meetings attended by the Engineering executive who knew the client best, the design project manager, permanently assigned to handle all Textile Fibers projects (chart). He met with the client's research chiefs and the men who would later staff the plant. (A Du Pont maxim is: "If you get enough people talking together, you get correct answers; or at least you identify the problem.")

• **Key dates**—By November, 1950, the general problems were pretty well defined, and preliminary funds were authorized by Du Pont top management. After further study of exact costs, final funds were authorized in March, 1951. Construction started at Kinston the next month. Seven months later, in November, the peak design force was at work in Wilmington—250 engineers, designers, and draftsmen, and 40 research people from Engineering's development engineering and engineering service divisions, and from Textile Fibers.

Meanwhile, a prototype unit, a full-scale segment of the projected Kinston plant, was moving into operation at Seaford, Del. This provided a sounding board for engineering and operating experience, and provided a source of supply for the Dacron-hungry public. The peak design effort continued until May, 1952. The startup date was in March, 1953. A $40-million plant was built with only two finger injuries.

• **Kinston details**—Now let's go back to see in detail how Kinston was built. During the first six months the basic data and the research work were reviewed by the design division under a "plans and estimate work order." This defined the problems and objectives, revised the basic data and confirmed the chemical process, together with a study of alternatives, and set out the scope of the work (how many units, what size compressors, type of building, and so on). Finally, this resulted in an order-of-magnitude estimate of the required investment, so that the manufacturing department could evaluate whether the project would pay.

Textile Fibers having decided to go ahead, the next step for Engineering was to prepare a construction cost estimate. In this job, every division of Engineering had something to do. So now let's see how Engineering is organized.

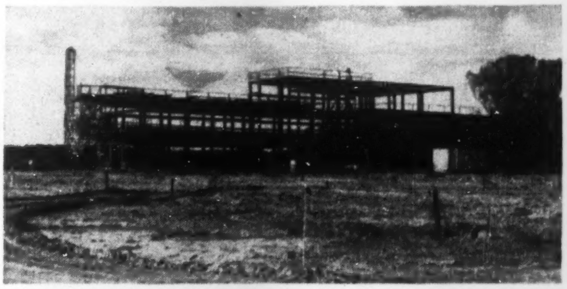
As you can see from the chart (page 44), Du Pont breaks this department into five divisions: Design, construction, engineering service, development engineering, and control. These divisions are in turn broken down into sections. The divisions and sections, (dotted lines on the chart) have direct contact with each other and with the 10 manufacturing departments, and also with the 12 other staff departments which provide specialized services to the manufacturing end.

In other words, if you want to consult someone in another department, you don't have to go up the chain of command in your department and then down the chain of command in his department to reach him. Du Pont considers this of enormous importance in speeding up decisions and creating an atmosphere of "one big happy family working together" which any big institution wants to have.

This atmosphere, incidentally, is a good deal more than just a theory at Du Pont. As one Engineering executive puts it: "You might describe the art of getting things done around here as a process of friendly needling." One reason why the needling is friendly: the Du Pont practice of shifting people around, within and between departments. Du Pont people believe this attitude might be hard to develop in the usual client-contractor relationship.

• **Estimating**—In preparing the construction cost estimate, Engineering's design division prepared the plans, specifications and data on the design costs, while the construction division furnished data on construction costs, including job overhead costs, taxes, insurance, and headquarters expenses. In the control division, an independent estimating section drew on these data to work up the over-all estimate. (It's

APRIL 1951—Construction starts on Du Pont's Dacron plant at Kinston, N. C., months before peak design effort began.

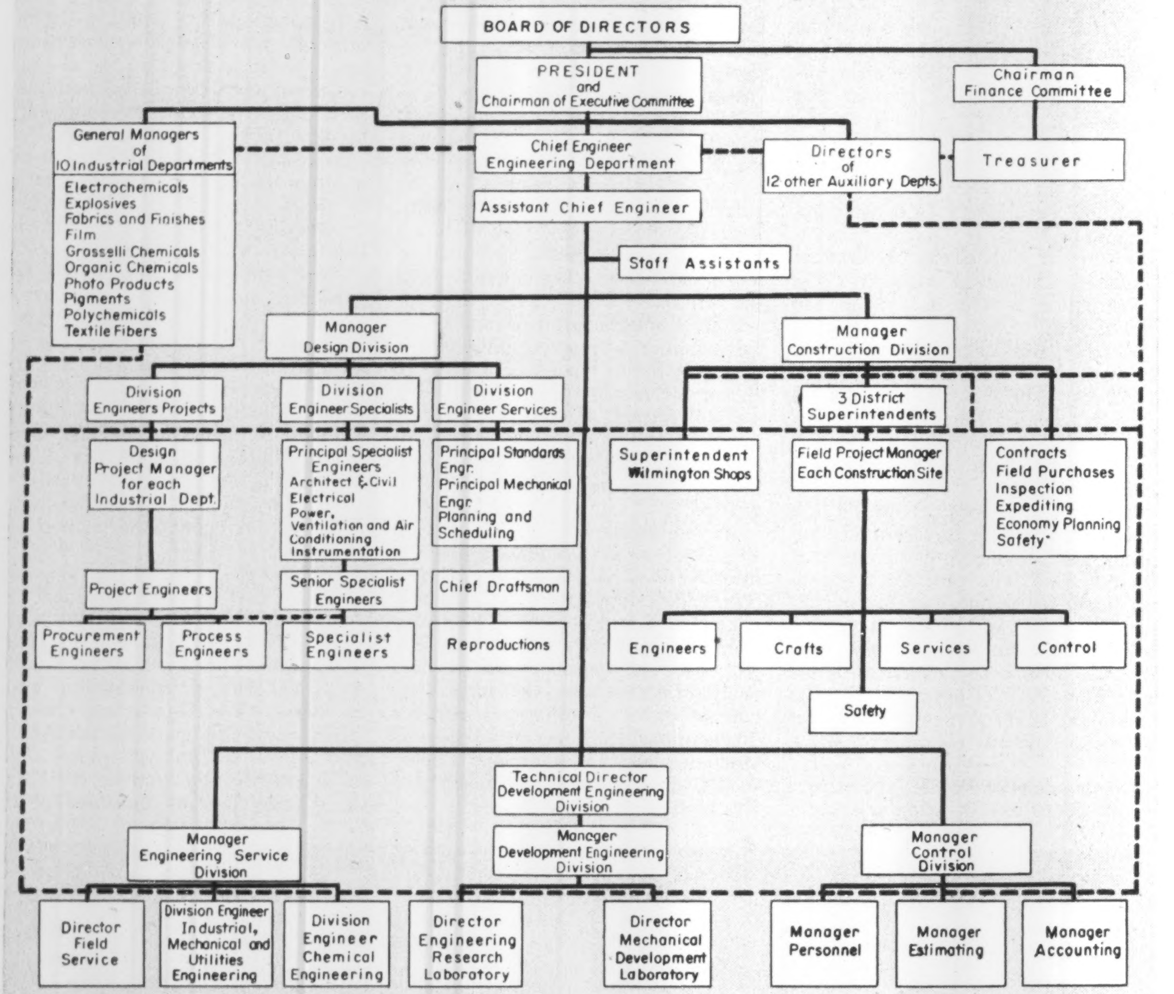


NOVEMBER 1951—When peak design effort began, the administration building was already well along.

JANUARY 1952—The administration building is near completion, and behind it the factory starts to rise.

MARCH 1953—The Kinston plant in operation, a three-year project of overlapping research, design, and building.

The Du Pont Company and Its Engineering Department


BOARD OF DIRECTORS
PRESIDENT and Chairman of Executive Committee
Chairman Finance Committee
General Managers of 10 Industrial Departments
Electrochemicals
Explosives
Fabrics and Finishes
Film
Grasselli Chemicals
Organic Chemicals
Photo Products
Pigments
Polychemicals
Textile Fibers
Chief Engineer Engineering Department
Directors of 12 other Auxiliary Depts.
Treasurer
Assistant Chief Engineer
Staff Assistants
Manager Design Division
Manager Construction Division
Division Engineers Projects
Division Engineer Specialists
Division Engineer Services
3 District Superintendents
Design Project Manager for each Industrial Dept.
Principal Specialist Engineers
Architect & Civil
Electrical
Power, Ventilation and Air Conditioning
Instrumentation
Principal Standards Engr.
Principal Mechanical Engr.
Planning and Scheduling
Superintendent Wilmington Shops
Field Project Manager Each Construction Site
Contracts
Field Purchases
Inspection
Expediting
Economy Planning
Safety
Project Engineers
Senior Specialist Engineers
Chief Draftsman
Procurement Engineers
Process Engineers
Specialist Engineers
Reproductions
Engineers
Crafts
Services
Control
Safety
Technical Director Development Engineering Division
Manager Engineering Service Division
Manager Development Engineering Division
Manager Control Division
Director Field Service
Division Engineer Industrial, Mechanical and Utilities Engineering
Division Engineer Chemical Engineering
Director Engineering Research Laboratory
Director Mechanical Development Laboratory
Manager Personnel
Manager Estimating
Manager Accounting

NOTE: *Broken lines indicate normal and direct work communications*

interesting to note that this estimating section has worked out best in a separate echelon after having first been put in the design, and later in the construction, division.)

Meanwhile, the design division made site studies. Kinston was selected for a combination of many reasons, including proximity to raw materials and markets. Once the general area was decided on, actual site selection was not difficult, since almost all Du Pont plants must be on both rivers and railroads for water and transportation.

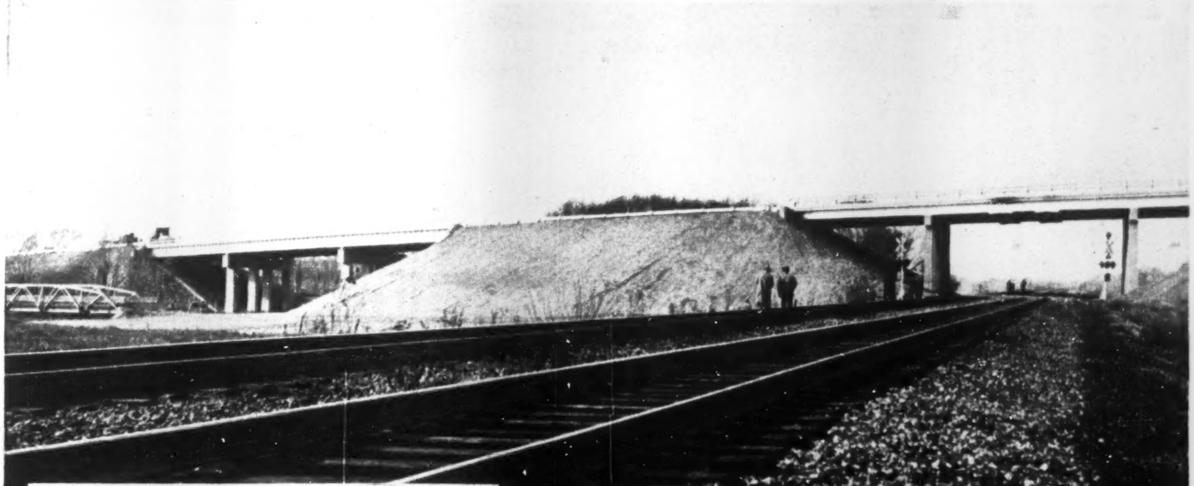
A request for money sufficient to cover preliminary costs and the purchase of critical materials and equipment—amounting in Kinston's case to about $7 million—went to the executive committee (chart). This is an all-powerful nine-man group headed by President Greenewalt. Members of this committee are strictly policy planners, and have no operating responsibility. From the executive the request went on to the finance committee, for final authorization of funds.

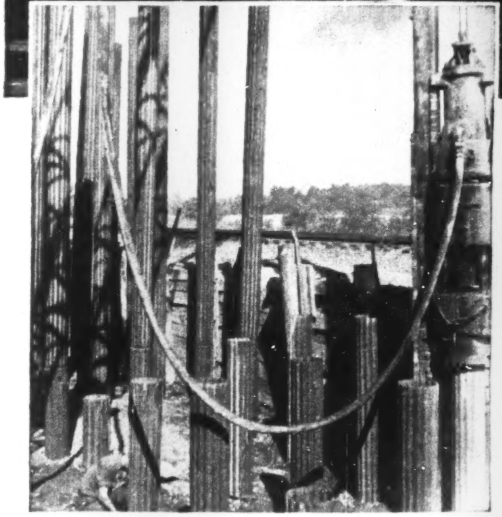
After this top-level approval, design work picked up speed to the point where orders for materials and equipment could be placed. At the same time, work went on to make up a firm estimate of costs of final design, procurement of equipment, and construction. In Kinston's case, this estimate came along four months after preliminary funds were appropriated. Like all Du Pont construction appropriations, it included no allowance for contingencies, other than for rising material and wage costs. This time, an additional $33 million in all was appropriated.

Even before final funds were authorized, the most important of all key men in construction of the plant emerged. By a process of group discussion on Engineering's higher levels, a field project manager was picked out of the construction divison to build Kinston. He arrived in Wilmington in November, 1950, to analyze design and formulate plans for the job for which eventually he would have full and final responsibility.

• **Design scale**—By November, 1951, peak design effort had begun. Du Pont splits its design work into two parts:

The process group—administers the projects, chooses or designs the process equipment to be used and its control, and decides the layout. It included (in this case): the design project





Pile driving and extending under way for Ohio's two new Route 30 bridges (above) engineered by Bureau of Bridges, Ohio State Highway Dept. 286 eighty-foot Monotubes, with 8" tip and 12" butt diameter, were driven. General Contractor: The Lewis and Frisinger Co., Ann Arbor, Mich. Pile Driving Contractor: The Purdy Construction Company, Mansfield, Ohio.

Note the narrowness of this old bridge and the hazardous approach curve which have now been eliminated by Ohio's new Route 30 bridges.

MONOTUBES "go in" for faster, safer traffic and unmatched economy!

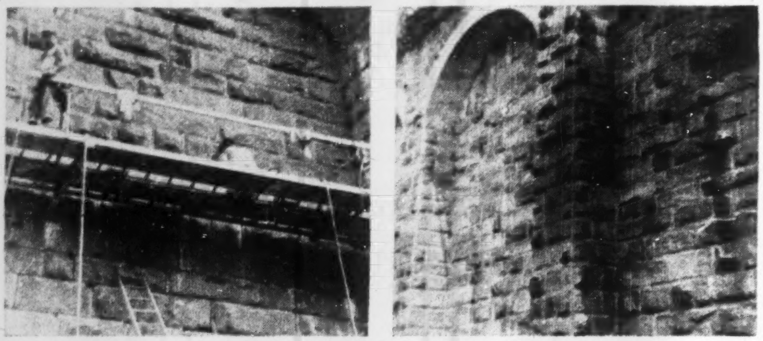
THESE new bridges at East Union, Ohio, on the heavily traveled Lincoln Highway, eliminate a triple threat . . . a small bottleneck bridge, a bad curve, and a hazardous railroad crossing. Both bridges are supported by rugged, cold-rolled Monotube foundation piles.

And speaking of eliminating threats, here's another case where Monotubes saved time and money by licking an unexpected problem. The piles had to go much deeper than anticipated, but due to Monotubes' simple field extendibility, the required penetrations were readily achieved using the same light crawler crane with which the job was started—no penalty for heavier equipment.

You stand to gain many other advantages with Monotube piles. Write to The Union Metal Manufacturing Co., Canton 5, Ohio, for Catalog No. 81.

UNION METAL

Monotube Foundation Piles



STONE R. R. VIADUCT REPAIRED WITH "GUNITE"

The above photographs show a large stone viaduct belonging to an eastern Railroad. This structure built in 1888, was originally designed for a single track, but was later changed to accommodate double tracks. Increased locomotive weights and power caused the mortar in the joints to chink out due to vibration. Cement Gun crews made the viaduct "as good as new" by repointing the joints, and grouting one of the arches over the Highway.

This job of repointing the masonry joints and the grouting was accomplished by using the "CEMENT GUN" nozzle for filling the joints.

Many other instances of repair, remodeling and new construction with "GUNITE" are described and pictured in Bulletin A2400. A request on your letterhead, will bring a free copy by return mail.

CEMENT GUN COMPANY
"GUNITE" CONTRACTORS
GENERAL OFFICES — ALLENTOWN, PA., U. S. A.

MANUFACTURERS OF THE "CEMENT GUN"

1460 ft.

it took a B-G
Runabout
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only 8 hours to dig 1460 feet of coral rock.

see your B-G distributor or write
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AURORA, ILLINOIS, U. S. A.

"BERG"
CONCRETE SURFACER
MODEL A

"Berg" equipment is used extensively for surfacing and finishing applications on concrete construction.

The many "BERG" Models available, permit exact selection for your particular application.

The distinctive "BERG" features give you the kind of results that are realized in better quality work, combined with lower costs.

"BERG" Heads and Attachments are interchangeable, thereby providing adaptability for vibrating, wire brushing, sanding and polishing applications.

THE CONCRETE SURFACING MACHINERY CO.
4667 SPRING GROVE AVE.
CINCINNATI 32, OHIO

manager who handles all projects for Dacron, with one or more project engineers and numerous process engineers, working with a section leader from the drafting room plus leading designers, and draftsmen.

The specialist group takes over the non-process details. For the various specialties, you can refer to the chart. Each group is headed by a principal specialist engineer, and has several senior specialist engineers. And each group has a drafting room section of its own, which of course varies in size with the work load.

Du Pont jobs take a lot of draftsmen. Right now, Engineering has about 1,500 draftsmen at work on 120 "commercial" (non-government) projects. About 500 of these draftsmen are sub-contractor employees in New York City, supervised by 50 resident company supervisors. Sub-contracting permits Du Pont to handle peak work loads with minimum fluctuation in the permanent drafting force.

The Louviers designers and draftsmen are something special, because this department boasts it does as much engineering on the drafting board as anyone else. Young graduate engineers assigned to the design division spend a minimum of two or three years at the board, and are expected to contribute heavily to engineering.

The designers and draftsmen prepare the drawings, apply the proper engineering standards (Du Pont has worked out extremely detailed standards for the various types of construction it does), check the drawings (including the drawings of the suppliers of equipment), coordinate and check their work with the other design groups for possible interferences. It's the process engineer's responsibility to make the major calculations, follow the actual design on the board, evaluate alternative designs, draw up specifications, and select equipment.

Close liaison and careful scheduling are essential during the whole design-and-construction process, to save time and money. This is accomplished by all sorts of devices, of which many are of course well-known outside Du Pont.

• **Construction begins**—In April, 1951, more than a year before the peak design effort had ended, construction started at Kinston. It was under the control of the field project manager who, as always, was completely responsible for construction results.

Design had already requisitioned all special materials and equipment; the rest is ordered as needed by the FPM. He also arranges for construction machinery, which he usually rents with an option to buy. When sub-contractors are needed—Du Pont does let out about 25% of its construction work, under close supervision—the FPM will (with the help of the contract section in the construction division) pre-select contractors who will be asked for bids on parts of the job.

An FPM carries quite a load. Failures cannot be blamed on design delays or poor materials; the FPM is expected to shout if he doesn't get what he needs. He must handle his men, who are not plaster saints, in such a way that the community gets a good first impression of the Du Pont company. And he must spend evenings representing Du Pont at service-club functions, civic meetings, etc.

And yet at Du Pont this man might not have been long out of engineering school. The company promotes on the basis of merit, not seniority, and never brings in new people this high up in the executive level.

But the jump from a brand new graduate engineer in the construction division to FPM is, of course, a tough one. In this connection, if you ask an Engineering executive what qualities he looks for in hiring, he will probably mention: (1) ability to get along with others, and (2) ability to manage others. He'll take professional ability for granted.

In its construction division, Du Pont builds "generalist" engineers, not specialists. It no longer hires only civils for construction, and it assigns its junior engineers to definite geographical subdivisions of the site, making them responsible for all phases in that area. Du Pont figures that this avoids battles between specialists.

• **Safety**—If you had watched construction progress at Kinston, you would have noticed that the theme of economy which runs through all Du Pont operations comes out with particular emphasis in this phase of the engineering department's work. And it ties in there most forcefully with another theme which is unendingly present in Du Pont operations: safety. Du Pont prides itself that last year its accident rate on construction work was 100 times lower than the average for the construction industry.

As a company which used to be primarily a maker of explosives, Du Pont has traditional reasons for emphasizing safety. Safety is also the best kind of economics, here and now. Besides the obvious savings of human life and limb, and preservation of group morale, constant attention to safety makes for a clean, orderly job. Workers pay close attention to what

YEOMANS PUMPS · GIVE YEOMAN SERVICE

Briefs
from the YEOMANS GUARD

Pittsburgh's Mellon Bank has a financial genius in the basement

Not all the investment wizardry and financial acumen of the Mellon National in Pittsburgh is limited to the spacious dignity of executive office.

Down in the basement, unseen and unsung, is a faithful worker with as canny a sense of money, as sound a judgment of investments as you'll find top-side: A Yeomans Sump Pump installed in 1922. It handles the cooling water from the air conditioning system, and the drainage normal to any big building.

For 31 years that pump tended to its job—never got out of the pit; until the engineer decided it might be well to inspect it, before another summer with its peak load on the air conditioning equipment.

Isn't that the kind of faithful performance you hope to get from any mechanical equipment? There's a sure way to get it.

☐ Please send Bulletin 3-8000.

18,000 gpm of FLY ASH and ASHPIT DRAINAGE Handled by YEOMANS PUMPS

Moral: Bring Tough Problems to Yeomans.

Late in 1950, four Yeomans vertical submerged centrifugal pumps were installed in what is said to be the largest* electric power generator station in the United States—for removal of fly ash and ashpit drainage. The pumps are mixed-flo units, of 14-inch size and 4500 gpm capacity—for a total of 18,000 gpm.

Because of the highly abrasive character of the water with its heavy ash content, the pumps are of special construction—including non-clog wear-resistant impellers; shafts, shaft sleeves, casings and impeller wearing rings of special material; and corrosion-resistant bearings.

Performance: Wholly satisfactory.

Aside from the immense satisfaction derived from solving a truly "difficult" problem like this, it is exceedingly interesting to note accelerating pace at which industry is referring its perplexing handling problems to specialists like ourselves. Production men's chief concern with any proposed unit is—"will it do our job dependably?" In the light of substantial savings in time, labor and maintenance, the original equipment cost is relatively unimportant.

Have you a "problem" material?—write us.

*Our authority: that eminent firm of electrical and power plant engineers, Sargent & Lundy.

Webster-Crestwood Treatment Plant Makes Residence Sites *Worth More Money*

In an attractive wooded spot in rolling St. Louis County, Missouri, is a neat and sightly sewage treatment plant that serves the fast-growing residential subdivisions of Grant Ridge, Elmont Park, Webster Oaks, Webster Ridge and Webster Downs.

This plant is efficient proof that sound and adequate provision for a community's sanitary requirements is a potent factor in making it a desirable place to live.

With admirable foresight, enough property was set aside—about 7 acres—so that the plant, designed for a population of 1,600 can be enlarged easily and at moderate cost, to keep pace with population increases; up to an ultimate 20,000 persons.

Heart of the plant—a complete Yeomans installation of the activated sludge type—is a Yeomans "Spiralflo" Aerator. That simple and dependable mechanism introduces air into the sewage, and disperses the activated sludge flow throughout the whole aeration tank content. Primary and final collection tanks are Yeomans "Streamline" Sludge Collectors; sewage lift is handled by Yeomans Expelsor pneumatic ejectors; and control-house pumps are Yeomans horizontal non-clog sludge pumps.

Treatment in this plant is high in efficiency, and admirably low in cost of operation and maintenance. Straight-wall clarifier design minimized construction costs.

If you want additional data—*well worth attention*—write our Sanitary Engineering Division and mention this item.

The Yeomans Guard, published several times a year, is a compendium of news and useful information covering the pumping of materials and the treatment of wastes, both domestic and industrial. We shall be pleased to send you the current issue if you'd care to have it. Ask your local Yeomans Representative—listed in the telephone book yellow pages under "Pumps"—or write direct.

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Manufacturers of: Centrifugal Pumps and Pneumatic Ejectors for Buildings, Municipalities, and Industrial Applications, and a Full Line of Waste Treatment Equipment.

Warehouse built with sixty-eight 61' span flat top trusses fabricated by Cartwright & Morrison, Inc., Holcomb, N. Y., using TECO connectors supplied by Campbell & Ives, Inc., New York City.

For maximum efficiency in timber joints, specify

TECO WEDGE-FIT

SPLIT RING CONNECTORS

in conforming grooves cut with Teco Wedge-Fit Grooving Tools.

This precision combination assures efficient fabrication of timber trusses and tight fitting joints.

Prefabricated, ready-to-erect timber trusses and framing members are available from experienced fabricators in all sections of the country.

FREE — Illustrated folder on TECO Wedge-Fit Connectors, "For Maximum Efficiency in Timber Joints."

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they are doing; supervisors plan work ahead of time to avoid accidents.

All sorts of methods are used to get an accurate idea of construction costs, and to measure the efficiency of different projects against each other. The FPM, helped on the larger projects by a "control superintendent," strives to keep costs in line with or below estimates. Naturally, a good part of his reputation depends on this.

The construction division has an economy planning section which devotes itself to studying ways to cut costs, and to teaching people how. For example, it organizes annual meetings of FPM's and craft superintendents, to swap ideas, talk over mistakes, and see how they could be avoided. (Another Du Pont maxim: "We are more interested in what's wrong, than in who's wrong.") The economy planners run an educational program to bring "CR" (cost reduction) down to the foreman level through monthly reviews, and to the whole organization through traveling exhibits and other media.

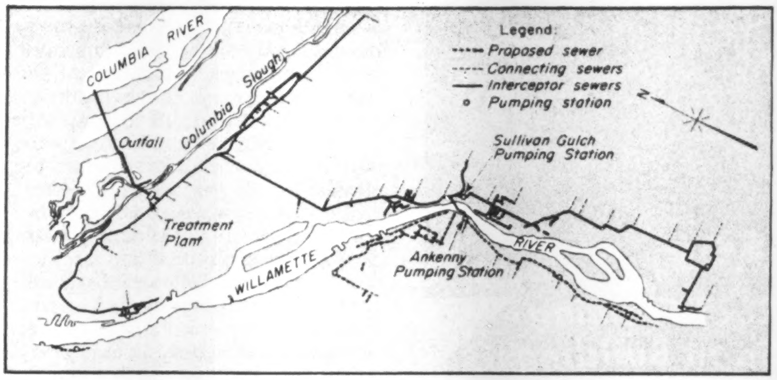
Since Du Pont figures that about 85% of labor time is spent handling and installing materials, and 15% in changing the form of the materials, the economy group concentrates on materials handling. For instance, it has two men working full time on the best ways to pick up and put down pipe—a very important construction item in the chemical industry. The group has broken down the manhours involved in the more common types of construction jobs, and each type into elements so analysis can be varied.

Another simple doctrine that the economy planners repeatedly point out to construction engineers is written planning. Says one: "We can prove that written planning will reduce costs by 10% to 15%."

Finally, in March, startup date arrives. By this time, the manufacturing department had to have approximately 800 people on the site. This hegira had to be planned so that they got there at the right moment. Meanwhile, one of the sub-sections in Engineering's control division is cleaning up the cost accounts and setting up the valuations at which the plant will go on the company books.

The Kinston plant started turning out Dacron commercially in time to supply part of this summer's demand for lightweight suits. And you can probably understand by now why the Du Pont company feels that this job, and dozens of others before it, was done better, quicker, and cheaper by a fully integrated engineering and construction force working hand in hand with the manufacturing departments.

MUNICIPAL



SEWAGE WORKS SITE—Two new pumping stations are a major step in Portland's plan to stop pollution of the Willamette River and Columbia Slough. Ankenny unit will serve the city's western area; Sullivan Gulch plant, the southeast section.

Completion of 2 pumping plants will solve Portland pollution problems

Total pumping capacity of 127 mgd eliminates 62 raw-sewage outfalls at 4 times dry weather flow

Two major sewage pumping plants go into operation this summer in Portland, Ore., to bring to completion a second major phase of the city's sewage works program. The pumping plants will tie into the new collection and disposal system large areas of the city that now discharge raw waste into the Willamette River.

• **Big one**—A feature of the recent work is a 450-hp synchronous, two-speed, electric motor that powers one of the pumps; it is believed to be the largest such motor ever built.

First phase of the postwar program ended nearly two years ago with initial operation of the sewage treatment plant. That required construction of these facilities: A primary treatment plant, an outfall line to the Columbia River, a 3½-mile long 8-ft dia horseshoe tunnel and several miles of interceptor sewer. But, until the completion of the two major pumping plants this summer only 20% of the city's flow went to the treatment plant.

Among other complications, limited flow reduced operation of the sewage treatment plant with usually only one or possibly two of the four sedimentation basins in use. (First sludge was drawn last October after one year of operation.)

Purpose of the entire program is to relieve pollution of the Willamette River and Columbia Slough. Before the program was initiated, Portland had 62 sewage outfalls discharging into these bodies of water. When the program is completed, the only sewage reaching these streams will be from storm overflow that normally occurs in months when stream flows are high.

The program was financed by a $12 million bond issue voted in 1944. A subsequent $5 million bond issue was voted last November to finance completion of the interceptor work. Operation and debt repayment costs are met by a sewage service charge amounting to ¼ of the property owner's water bill bringing an annual revenue of some $600,000. Some tax money is also required.

• **Pumps under river**—One of the two major pumping plants, the Ankenny sewage pumping station, actually is an expansion of an existing plant. Up to now it has raised sewage to river level during high water periods. For this purpose, it has two 30,000-gpm pumps and two 10,000-gpm pumps. These units will remain in service for use during storm periods when the entire flow in the combined sewers cannot be pumped to the treatment plant.

The Ankenny plant has served only the downtown area. When the interceptor program is completed it will serve most of the entire area west of the river by pumping sewage under the river to where it can flow by gravity to the treatment plant.

Added at the Ankenny plant are two

Huffman-Wolfe's list of clients reads like a "Who's Who" IN INDUSTRY

A partial list of our most recent clients:

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National Cash Register Co.
Kaiser Alum. & Chemical Co.
Bethlehem Steel Co.
Upjohn Manufacturing Co.
Western Electric Co.
Southern Bell Telephone & Telegraph Co.
Kelsey Hayes Wheel Co.
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When Huffman-Wolfe is entrusted with your mechanical contracting problems, you have the assurance that every detail will be handled with the thoroughness that comes from experience in servicing the "blue chip" companies of American industry.

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Crescent SCRAPER

CRESCENT Scraper buckets are built in five types and fifteen sizes. Pictured above is a 3 cu. yd size handling heavy excavating.

On thousands of earthmoving jobs, Sauerman Scraper machines, equipped with the unique Crescent bottomless bucket, are cutting costs in digging, hauling and dumping almost every kind of material.

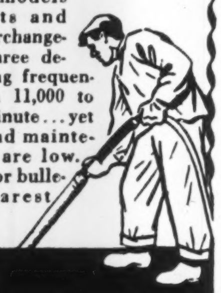
A Crescent bucket penetrates tough materials with ease, gets a full load quickly, hauls this load at speed of 400 f.p.m.—all with very economical use of power.

Write for Illustrated Catalog J.

SAUERMAN BROS., INC.
532 S. Clinton St. Chicago 7, Ill.

HOW TO MAKE 1 CONCRETE VIBRATOR DO THE WORK OF 2-

A prominent user of Vibro-Plus Internal Vibrators says one Vibro-Plus does the job of two ordinary vibrators. He says his concrete tests very high—and costs substantially less. Vibro-Plus will save money for you, too—cutting your concrete time and labor costs up to 60%. There are gasoline, electric and pneumatic models (with shafts and heads all interchangeable). All three deliver vibrating frequencies of from 11,000 to 15,000 per minute... yet operating and maintenance costs are low. Write today for bulletins and nearest distributor.



VIBRO·PLUS
PRODUCTS, INC.
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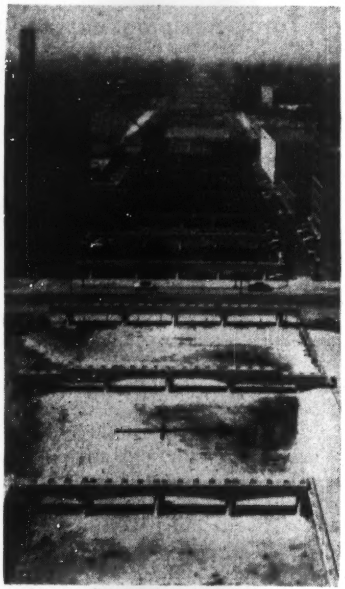
pumps driven by two-speed synchronous motors. One of these is powered by a 450-hp motor that was especially designed and built for the job because of the limited space available. At 600 rpm, it will pump 37 mgd against a head of 56.5 ft. The other pump with a 225 hp motor is capable of handling 15.6 mgd against a 58-ft head at top speed.

As each pump operates at two speeds, there are 8 different possible flow combinations that can be used. Control is on an automatic basis with flow such that one pump will operate even during the very low flow periods. The plant is designed to pump 3 to 4 times the dry weather flow to the treatment plant. When flow to the plant is more than this, the excess is bypassed to the river.

The other major pumping plant, the Sullivan Gulch Sewage Pumping Station, also is designed for 3 to 4



Chicago Dept. of Public Works photo

Chicago expressway

Big bents and an expansive grid of rolled steel beams will carry Chicago's eight-lane Congress Street expressway at the transition from an elevated structure (foreground) to a fully depressed section west of Halsted St. (far background). The 16-mile, $92-million expressway, which will also carry rapid transit lines in a central parkway, is being constructed by the city, Cook County, and the Illinois State Highway Department.

times the dry weather flow. This unit handles the flow from the southeast section of the city. Pumps installed here include two 10 mgd units, a 20 mgd unit and a 35 mgd unit. Various combinations of these pumps provide flexibility to handle all flows so two-speed motors are not needed.

The plant discharges into a pressure conduit installed in a tunnel that also includes a gravity bypass. Thence it goes through a 48-in. cast-iron pipe to a gravity sewer with the pumps operating against a 35-ft head.

The Sullivan Gulch sewage pumping station is a circular building below grade with a peripheral wet well and a rectangular superstructure.

Design of the project was supervised by a board of engineers composed of Ben S. Morrow, John W. Cunningham and J. C. Stevens. A. M. Rawn served as a consultant to the board.

Construction is under the general supervision of L. G. Apperson, City Engineer and operation of the system is under the direction of Gordon L. Burt, engineer-manager of Portland's Bureau of Sewage and Refuse Disposal.

The two-speed, synchronous pump motors were furnished by Fairbanks Morse & Co.

Cleveland studies proposed $3-million parking garage

Plans for a proposed three-level, $3-million garage under Cleveland's Mall have been submitted to the officials of that city. Proposals call for diagonal self-parking and escalators to carry vehicles to and from street level.

John B. Kirkpatrick, vice president, and John G. Theil, project engineer for the H. K. Ferguson Co., explained the details to City Plan Director James M. Lister and Properties Director Arthur L. Munson.

The plans, if approved by the fine arts committee of City Plan Commission, will be studied at a conference on financing to determine whether to start final planning and construction.

- **Landscape lost & found**—350,000 yards of earth will be excavated from the mall area to allow for the construction of three nine-foot stories and four feet of topping below ground level.

A layer of quicksand to be encountered 23 ft down will be retained by steel sheet piling to allow for footing placement on a lower strata.

Consideration of possible revenues from the garage will determine whether a bond issue could finance the project at probable current interest rates.

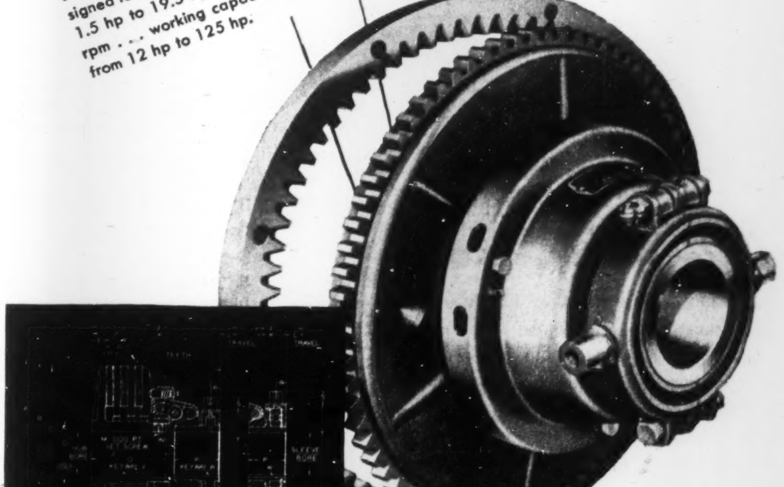
Designers' FIRST CHOICE for Hard Working Machinery

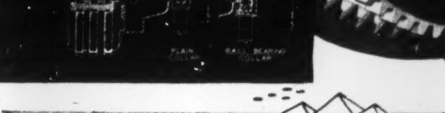
Leading equipment and machine designers of modern industry work closely with Twin Disc engineers—each time proving again . . . whatever the power linkage problem, Twin Disc usually finds the answer in its broad line of standardized power transmission equipment.

As an example, the Twin Disc Model CL standard line of friction clutches stands out as ideally adaptable to many high-speed installations demanding quick, easy engagement and disengagement—without failure.

For complete specifications, and a view into how Twin Disc Model CL Clutches may suit *your* particular application . . . write for Bulletin No. 120-D.

Twin Disc Model CL Clutches are rugged, heavy-duty enclosed units—small and compact for requirements limited by space. Built with one, two and three friction plates . . . sizes 5.5" to 11.5" . . . designed to transmit loads from 1.5 hp to 19.5 hp per 100 rpm . . . working capacities from 12 hp to 125 hp.





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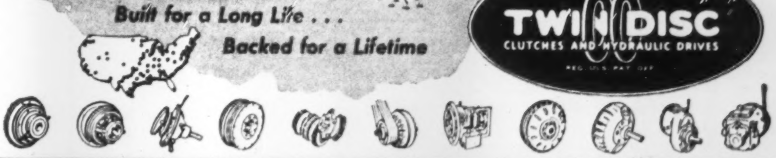

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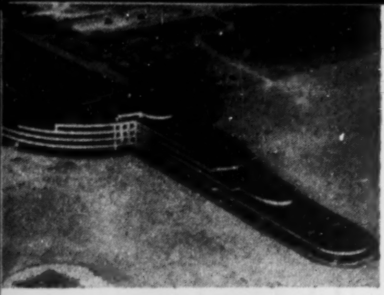
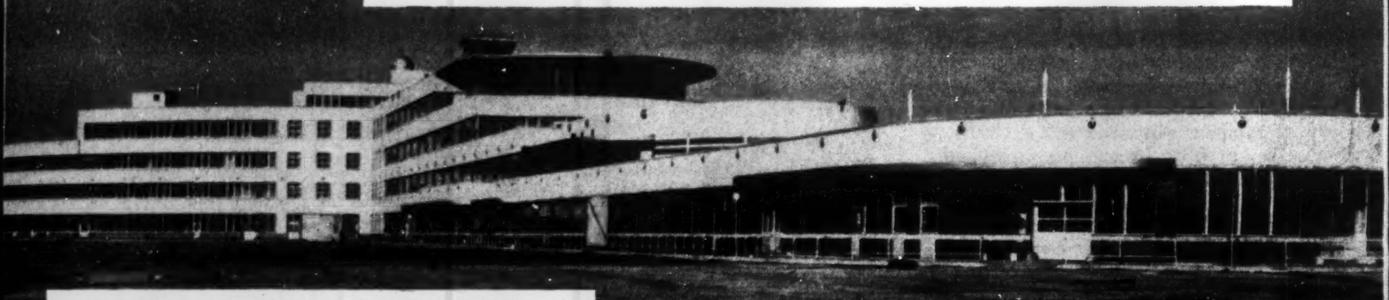


Huge Terminal Building at World's 2nd Largest Airport *By* AMERICAN BRIDGE



4,000-Ton steel framework fabricated and erected for 460-ft. semi-circular 7-story Administration Bldg. and 578-ft. Loading Dock

THE new thirty-three million dollar Greater Pittsburgh Airport, opened in June 1952, is an impressive sight. Its sixteen-hundred acre airfield is the second largest in the world . . . larger even than Washington's National Airport and New York's LaGuardia Field combined!

But, as impressive as is the airfield itself, it is overshadowed by the spectacular Administration Building. This seven-story, semi-circular structure with its long loading dock is easily the world's largest terminal building.

American Bridge fabricated and erected the 4,000-ton steel framework for this huge structure which is 460′ feet in breadth at its widest point, and with its 578-ft. loading dock has an over-all length of 979 feet. Nine months after the erection crew took over, the last rivet was driven.

This huge building is another example of American Bridge engineering and fabricating "know-how". And it is your assurance that you can depend on American Bridge to handle any type of steel-frame construction with thoroughness and speed . . . any time . . . anywhere. If you would like to know more about the advantages of American Bridge fabricated and erected construction, call our nearest office.

Interesting Facts

Airfield is 2nd Largest in World.

Terminal Building is Largest in World.

The terminal building provides facilities of a small city, including a 62-room hotel, a restaurant to accommodate 3000, numerous shops.

Designed by: **Allegheny County Department of Aviation.**

Owner and Operator: **Allegheny County Department of Aviation.**

Architect: **Joseph Hoover, Pittsburgh.**

Consulting Engineer: **L. W. Cook, Pittsburgh.**

Structural Steel Fabricated and Erected by **American Bridge: 4,000 Tons.**

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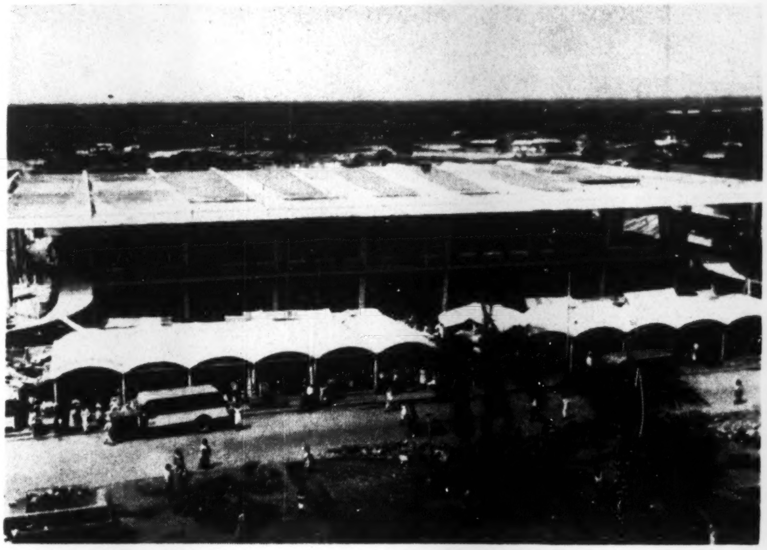
AMERICAN BRIDGE

USS

UNITED STATES STEEL

INTERNATIONAL



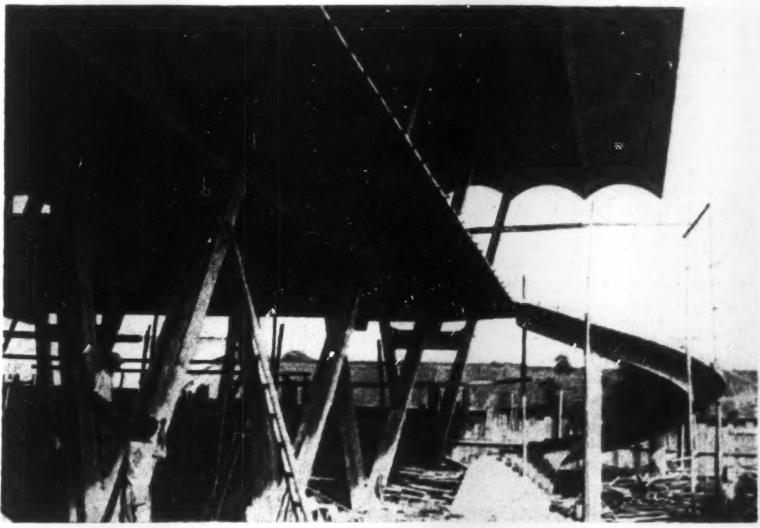
OPEN SIDED MARKET in Girardot, Colombia, gets free circulation of air under its thin-shell roof of reinforced concrete arched slabs.

Tropic market built "open" for maximum air circulation

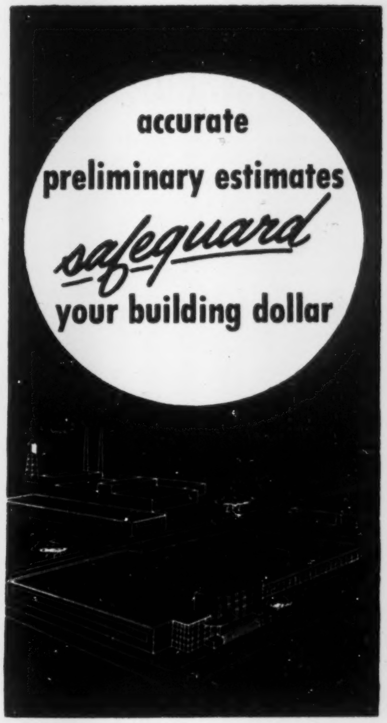
A partly completed, reinforced concrete market in Girardot, Colombia, a small tropic town on the Upper Magdalena River, has no walls. This design permits maximum circulation of outside air across its main and mezzanine floors.

With a yearly average temperature in Girardot at 82 F and a regular midday high of 104 F, it was extremely desirable to design the big market without walls (in spite of frequent rainstorms) to take advantage of all breezes that might ventilate the structure.

The thin-shell concrete roof, composed of 198 arched slabs covering a 213x180-ft area, catches rain. Evaporating in the sun, this water cools the



V-COLUMNS support the market roof and intermediate mezzanine floor, which is reached by helical stairs at each corner of the building.



Ferguson's practice of combining the work of designer, builder and cost expert, assures accurate and dependable preliminary estimates. From the beginning, those responsible for the design collaborate with the cost and engineering specialists to produce a structure of functional soundness—and at the same time hold expenditures within the original appropriations.

We would welcome the opportunity to have our engineers and consultants show you how Ferguson services can be applied to your building program.

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PREFABRICATED MATS CUT MANHOURS 50%

BY welding steel reinforcing bars into prefabricated mats, time for erecting these bars has been cut 50% on this $40,000,000 apartment project.

Eight wooden templates are used to lay out and weld 12′ x 16′ mats of ½″ reinforcing rods. Four steel workers lay the rod lengths in templates and tie off the joints. A welder follows up tacking the rods at various positions to keep the mat in alignment. These prefabricated mats are then stored until needed. Center sections are hoisted to the top of the building first, followed by mats for the wing sections.

Due to the size of this 18 building project, it was impossible to secure sufficient skilled steel workers needed to position reinforcing steel bars with conventional methods. Before prefabrication of the mats, two days were required to lay the steel for each wing. With the welded mats, this job is done in half the time, saving 50 man-hours on each wing.

HOW TO DESIGN IN STEEL. Latest data on arc welded structural design is presented in the new 9th Edition Procedure Handbook of Arc Welding Design and Practice. Price only $2.00 postpaid in the U. S. A.; $2.50 elsewhere. Write on your letterhead to Dept. 2306.

Welding ½″ reinforcing bars into prefabricated mats on Los Angeles apartment project of the Metropolitan Life Insurance Company. Architect, Leonard Schultz, New York. Contractors, Starrett Bros. and Eken.

Steel bars are held in place by ⅛″ by 1-½″ grooved board templates. Completed mats in background are stored until needed. Steel fabrication done by the Anthony C. Meehleis Company.

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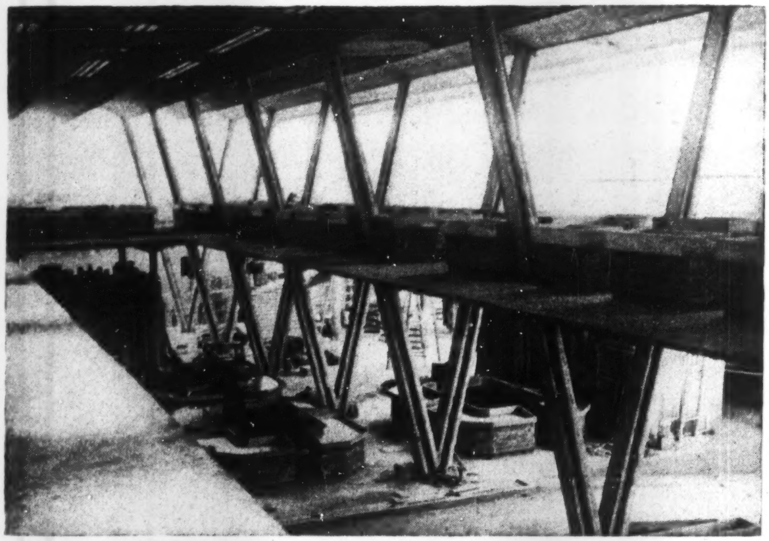
THE WORLD'S LARGEST MANUFACTURER OF ARC WELDING EQUIPMENT



MEZZANINE FLOOR, built along the V-column lines, forms an open gallery so that air can circulate freely between the ground floor and the roof.

roof. In the center of the building, the crests of the arched roof slabs are glazed to admit light.

The corrugated roof and the mezzanine are supported on 40 columns arranged in four rows of 10 each. These columns consist of a pair of slanting struts diverging from a common footing, thus forming a V. On the mezzanine, this design makes available floor area for counters between the struts.

The mezzanine (reached by helical stairs at the corners of the building) extends only a short distance beyond the columns, leaving large open areas above the main floor. Thus, the floor area of the building was increased without appreciably impairing air circulation over the main floor.

The cantilever slab is strengthened by transverse ribs on the underside.

Leopoldo Rother was the architect for the market. Engineering design by Guillermo Gonzalez Zuleta.

French get Assuan power contracts

The latest move in the checkered history of Egypt's plan to build a hydro power plant to utilize the head provided by its great Assuan storage dam on the Nile is the awarding of the construction contract to two French concerns. La Societe des Grands Travaux de Marseille will handle the civil engineering construction, while La Societe des Forges et Ateliers du Creusot will build and install the power equipment.

Back in 1946 a contract was awarded to a British contractor to build a power plant at the foot of the dam. Some work was done, but the contract was cancelled when a plan for another location of the power plant came into the picture. Bids were again asked in 1951, and the low bid received from a combination of British, French and German firms, but no award was made. Now two of France's best known contractors have been chosen in a third attempt to get the work going. The contract price is said to be about $30 million.

The present plan is to excavate a supply channel around the dam, construct the power plant across the channel and provide for the discharge back into the river through four tunnels. Excavation in the supply channel, which will be carried to about a 60 ft depth, will total over 1.5 million cu yd. Each of the four tunnels, 39x42 ft in section and a half mile long, will require about 160,000 cu yd of excavation in rock. Much of the heavy canal excavation equipment used by the same contractor on the Donzere-Mondragon project on the Rhone in France will be brought to Egypt for use on the supply channel.

The power station is designed to be equipped with seven 50,000-kw generators, which will make it by far the largest installation in the Middle East. Much of its output will be used to electrify irrigation pumping in the Nile Valley.

OBITUARIES

Max F. Hayford, 55, former Chicago civil engineer, died June 7 in Ft. Myers, Fla., where he was engaged in the construction business. He received his degree from Northwestern University in 1923; became superintendent of buildings for the college in 1935; and administrative assistant to Dean Ovid W. Eshback of the Technological Institute in 1941.

James Beasley, 43, vice president of the John Beasley Construction Co. of Muskogee, Okla., was killed July 9 in a fall from a highway bridge under construction across the Missouri river near Chamberlain, S. D. He was inspecting the structure at the time of his death.

Frank D. Hughes, 81, retired civil engineer and bridge builder, died in Austin, Texas, July 2. Among his Texas construction projects were the Belknap Viaduct in Fort Worth and four bridges across the Trinity river in Dallas.

Ralph N. Tracy, 57, division engineer for the Armco Drainage and Metal Products Co. in Denver, Colo., died July 10. Receiving his degree from the University of Nebraska, he became city engineer of Fairburg, Neb. In 1930, he went to Denver for Armco, covering a territory of five western states as technical consultant.

Raymond A. Stanton, 54, safety engineer for the Corps of Engineers, Portland, Ore., died July 2. A native of Tacoma, Wash., he had been a resident of Portland since 1933.

Stener Rosenberg, 28, Seattle engineer employed on the Lookout Point Dam project on Oregon's Willamette River, was swept to his death April 30 in a coffer dam mishap. His body was found June 30.

Ralph W. Burchfield, 51, civil engineer and owner of the Ralph Burchfield Civil Engineering Co. in Houston, Texas, died July 6.

Louis A. Harding, 76, Buffalo, N. Y. engineer and former public works commissioner, died July 8. Graduating from Penn State College in 1899, he served as an engineering professor at Illinois University and collaborated in writing textbooks on heating and ventilation. He went to Buffalo in 1920; became president of both Harding-Carlton, Inc., and L. A. Harding Construction Co.

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Unit is powered by a Briggs & Stratton Model 1½ H.P., 4-cycle, air-cooled gasoline engine having a high tension magneto. Net weight of complete unit 84 lbs.

Write for Bulletin 3304

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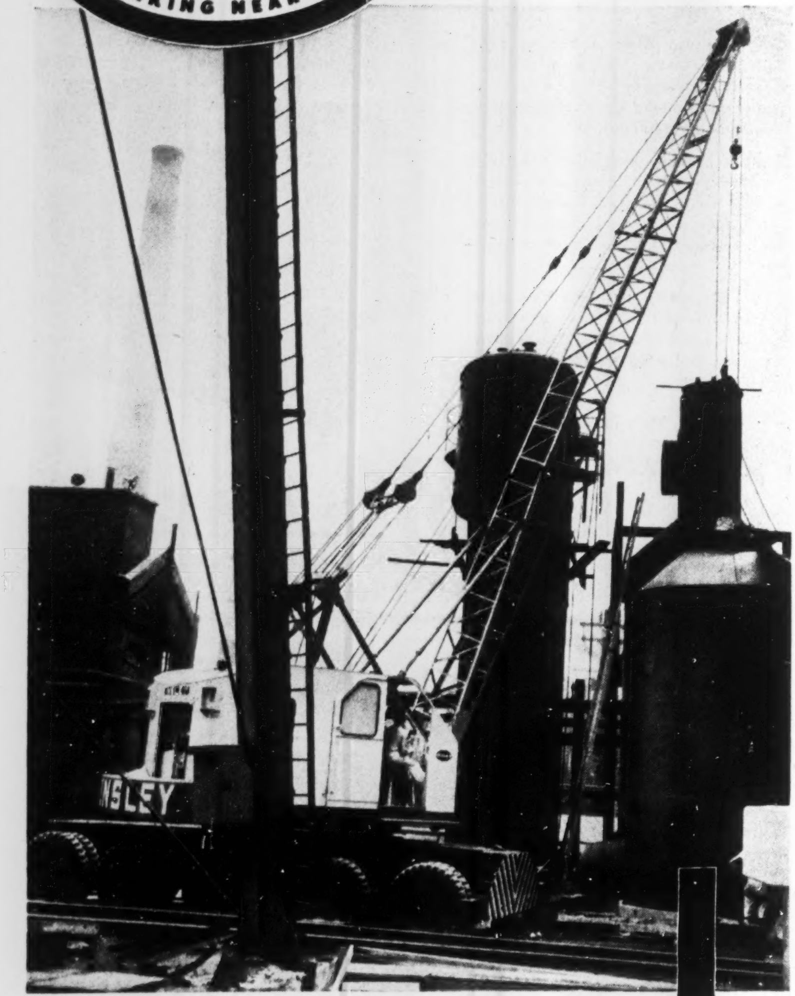
THERE'S AN INSLEY WORKING NEAR YOU ON A CONSTRUCTION PROJECT



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MEN AND JOBS

BEST WISHES—Harry L. Bowman (left) receives congratulations from his predecessor, Robert C. Disque, on being named as dean of faculty and dean of the college of engineering of Drexel Institute of Technology. Dr. Disque will relinquish these posts August 31.

R. C. Disque retires, Drexel engineering head

Robert C. Disque, Dean of the Faculty and, since 1933, Dean of the College of Engineering of Drexel Institute of Technology, will retire August 31, an institute announcement said last week.

Dr. Disque will be succeeded in both posts by Prof. Harry L. Bowman, now head of the Department of Civil Engineering.

Long a leader in educational matters, Dr. Disque was one of the early advocates of proposals to coordinate professional studies with "internships" in industry under what has become known as the Cooperative Plan of Education. A University of Wisconsin graduate, he has twice been granted honorary doctor of science degrees. Prof. Bowman holds degrees from Pensylvania State College and Massachusetts Institute of Technology, and during the war period, served as a member of the National Defense Research Committee and the U. S. Strategic Bombing Survey. Since the war, he has been consultant to the Atomic Energy Commission on bomb resistant structures.

Careers . . .

• **Changes—Frank W. Edwards,** since 1948 director of civil engineering for Illinois Institute of Technology, is in charge of new Chicago offices of Stanley Engineering Co., of Muscatine, Iowa. Mr. Edwards, president of the Illinois Section of ASCE, formerly was a teacher at Carnegie Institute, Pennsylvania State College, and served for a number of years with the U. S. Engineers . . . **William M. Hanavan** has been admitted as a partner to the firm of Edwards, Kelcey and Beck, consulting engineers of Newark, N. J. At the same time, the firm announced appointments as associates of **Joseph W. Lavin, H. Jack Leonard, Gordon L. Kirjassoff** and **George H. Leland** . . . **Jack Lewis,** formerly chief production engineer, has been named vice president in charge of production for the Hyster Co., at Portland, Oregon . . . **A. J. Herrmans** has become vice president in charge of sales and secretary of the American Cast Iron Pipe Co., Birmingham . . . **Gordon Manly,** a veteran of 20 years service with the Bureau of Reclamation and now chief field engineer on the Canyon Ferry project in Montana, has accepted a Point Four assignment as advisor to the Damodar Valley Corp. in India . . . **Leslie R. Dillon,** once chief engineer for the commissioner of buildings of St. Louis, Mo., has opened his own office as a consultant in his home city . . . **Harold F. Sommerschield,** formerly chief engineer for the Abell-Howe Co., Chicago contracting firm, has been named assistant to the manager of the Capitol Steel Division of Hausman Steel Co., Toledo . . . **W. R. Collins,** formerly of the Millstone Construction Co., St. Louis, has become manager of the newly formed Zonolite Contractors, Inc., Chicago.

- **Government appointments**–Shifts of four district engineers have been approved by the Corps of Engineers: **Col. Lavonne E. Cox** becomes district engineer at Tullahoma, Tenn.; **Col. Stanley G. Reiff** becomes district engineer at Tulsa, Okla.; **Col. W. D. Milne** takes over at Louisville; and **Col. Arthur H. Frye** is district engineer at Los Angeles . . . **Francis R. Geraci** has been appointed city engineer for Annapolis, Md. . . . **Charles R. Cornell** is now engineer-in-charge of reservoirs and dams for the city of Columbus–a newly created post . . . **Donald J. Zuker** has been appointed village engineer for Shorewood, a Milwaukee suburb . . . **Millard E. Moore,** Grand Rapids city engineer, has accepted the appointment of city manager for the community.
- **Honors**–**Joseph E. Vollmar, Jr.,** president of Vollmar Bros. Construction Co., St. Louis, has received a degree as a civil engineer at Washington University, St. Louis.

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MATERIALS AND LABOR PRICES

Market quotations on construction materials and wage rates reported monthly by ENR correspondents
September Materials, and Labor Prices will appear in September 10, 1953 issue

CEMENT, AGGREGATE, READY-MIXED CONCRETE—F. O. B. CITY

	PORTLAND CEMENT* Per bbl. C/L lots cash. dis. not deducted			SAND AND GRAVEL Per ton. carload lots			CRUSHED STONE Per ton. carload lots		CRUSHED SLAG Per ton. carload lots, f.o.b. plant		CONCRETE BLOCK 8 x 8 x 16-in.; truckload del.; per block		CONCRETE Ready Mixed 1:2:4, over. 50 c.y., del.
	Paper	Bulk	Mortar	Gravel, 1½ in.	Gravel, ¾ in.	Sand	1½ in.	¾ in.	1½ in.	¾ in.	Sand grav.	Lt. wgt. agg.	
Atlanta	$3.87	$3.56	3.40	$2.075	$2.075	$1.83	$2.20	$2.20	$1.87	$1.99	$0.21	$0.21	$12.06
Baltimore	3.90	3.60	3.53	2.50‡a	2.50‡a	2.00‡a	2.70‡a	2.80‡a	2.60‡a	2.55‡a	.17	.17a	11.45
Birmingham	3.26	2.60•	....	2.53n	2.53n	2.23n	2.64	2.64	1.25	1.45	.165	.165	10.45
Boston	4.16	3.84	3.96	2.50a	2.50a	2.50a	1.50a	1.60a	....	...	.215	.245a	12.00h
Chicago	3.48	3.17	...	3.25‡b	3.25‡b	3.65‡b	3.25‡b	3.25‡b	2.25‡	2.25‡	.23	.23b	11.70/11.94
Cincinnati	3.76	3.55	3.55	2.19‡c	2.24‡c	2.24‡c	2.54‡•	2.54‡•	....	....	.21	.225a	10.95
Cleveland	N. A. in C. L.	3.02•	....	2.05ef	1.85f	1.65	4.10j	4.10j	3.35‡	3.15‡	....	.24	14.40d
Dallas	3.15	2.85	2.90	2.18	2.28	1.84	2.22	2.38	...	....	.125e	.215	9.30
Denver	4.04	3.74	4.04	1.80	2.00	1.20	....	....	...	....	.23	.255a	10.50
Detroit	3.77	3.50	3.57	4.25‡b	4.25‡b	3.75‡b	4.50‡	4.50‡	4.50‡	4.50‡	.21	.22a	12.00f
Kansas City	3.42	3.12	3.20	1.85‡	1.85‡	1.50‡a	2.00‡a	2.00‡a	....	....	.20ag	.215e	12.00b
Los Angeles	4.32a	3.80a	4.92	2.11a	2.31a	2.06a	2.06a	2.16a	....	....	.135fm	.237m	11.71lh
Minneapolis	3.95d	3.64d	3.56	2.45‡ag	2.45‡ag	1.45‡ag	2.75‡ag	2.75‡ag	....	....	.23ik	....	11.90fi
Montreal	3.16ac	2.96ac	....	3.00	3.00	2.25	1.40ij	1.40ij	....	....	.20	.20a	11.10k
New Orleans	3.35	3.02	3.18	2.32	2.32	1.82	....	....	1.05	1.25	.25	....	12.90
New York	4.01	3.70	3.53	2.65bkr	2.65bkr	1.75bk•	2.60bl	2.60bl	....	....	....	....	13.55an
Philadelphia	3.58/3.97‡	3.27/3.64‡	3.58/3.63‡	2.75‡•p	2.75‡•p	2.15‡•p	2.30‡	2.40‡	2.00	1.90	.22/.25	....	12.50de
Pittsburgh	3.47	3.19	3.47	2.25‡	2.25‡	2.20‡	2.60‡	2.60‡	2.15	2.15	.23d	.23d	13.00
St. Louis	3.42/3.63b	2.99/3.25b	3.25/3.42	3.10am	2.90am	2.50/2.90am	1.70j	1.70j	1.50	1.50	.215	.215ei	11.40
San Francisco	3.56	3.16	....	1.92	1.92	2.02	2.02	2.02	....	....	....	.27cl	11.25c
Seattle	4.05a	3.45a	4.80h	3.00‡bm	3.00‡bm	3.00‡bm	3.50‡bm	3.50‡bm	....	....	.24j	.3325j	11.90j

‡Delivered. * Prices incl. dealers discount except as noted.
CEMENT: *a* Subj. to 10¢ dis. *b* Less 2% for cash. *c* CL price dealers discount not incl. *d* Dealers sell only LCL. • Truckload lots, destination price. *h* LCL.
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CONCRETE BLOCK: *a* Cinder. *b* Waylite. *c* Haydite. *d* Celocrete *e* 5½ x 8 x 12 in. *f* 8 x 4 x 16. *g* F.o.b. truck at job. *i* Less 2% for cash *j* Less 1% for cash. *k* 8x8x18. *l* F.o.b. plant San Rafael. *m* F.o.b. yard
READY MIXED CONCRETE: *a* 5 cu. yds. or over del. Man. *b* 25 cu yds. or more. *c* 10–100 cu. brackets. *d* 1–3 mi. zone. *e* 2,000 lb concr. *f* 2500 lb. comp. *h* Less 50¢ for cash. *i* 5% off for cash. *j* 2% off for cash. *k* Sales tax included. *l* 1:2½:4. *m* F.o.b. yard. *n* Plus escalator clause. • Add 15¢ for ea. add'l 3-mi zone

CASH DISCOUNTS CEMENT to Contractors: **Truck delivery, 2% for cash on 10th of month; on carload deliveries, no trucking, same as dealer cash discount 10c. per bbl. for payment within 15 days of date of invoice.** Subject discount 10c. per bbl. 20 days in Montreal.

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Charge for bags not included. For paper bags add 30¢ per bbl., not refundable

	Bulk		Bulk		Bulk		Bulk		Bulk
Richard City, Tenn	$2.75†	Buffington, Ind	$2.70†	Steelton, Minn	$2.80†	Muskegon, Mich	$2.85†	Toledo, O	$2.75†
Clinchfield, Ga	2.75†	Independence, Kan	2.65†	Leeds, Ala	2.60†	Saginaw, Mich	2.75†	Milwaukee, Wis	2.90†
Kingsport, Tenn	2.75†	Hannibal, Mo	2.70†	Duluth. Minn	2.80†	Wyandotte, Mich	2.75†	Green Bay, Wis	2.90†
West Des Moines, Iowa	2.80†	Northampton, Pa	2.75†	Hudson, N. Y	2.75†	Buffalo, N. Y	2.75†	Ironton, O	2.75†
Nazareth, Pa	2.75†	Universal, Pa	2.80†	Alpena, Mich	2.65†	Oswego, N. Y	2.90†	Montreal City	2.66
Bath, Pa	2.75†	Waco, Tex. (+ 10¢ tax)	2.60†	Detroit, Mich	2.75†	Cleveland, O	2.75†	W. Winfield, Pa	2.80†

† *Prices to hold for third quarter of* 1953.

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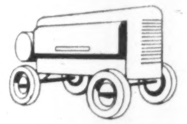
	PAVING BRICK AND BLOCK			PAVING ASPHALT Per ton, less than 80 penetration		ASPHALT BINDERS—FLUXES Per gal., 80–300 penetration		CUTBACK ASPHALT Per ton		ROAD OIL Per gal.	ASPHALT EMULSION (Quick-breaking) Per gal.	
	Granite Per M lots of 50,000 4x4x8 in.	Brick per M 3x4x8½ in. carload lots	Wood per sq. yd. 3½ in. 16-lb. treat	Tank car	Drums	Tank car	Drums	Tank car	Drums	Tank car	Tank car	Drums
Atlanta	$82.00	$41.00	$2.25	$26.00	$33.25	$0.215	$0.455	$0.095w	$0.185w	$0.105	$0.115	$0.225
Baltimore	150.00‡	75.00‡	...	22.00i	.....	.0809i	0.15i	.09iw	.17iw	.09i	.09i	0.12i
Birmingham	......	45.50i	.....	......	.....	.....	.....	......	......	......	......	......
Boston	......	......	.....	24.50a	35.50a	22.00av	35.50ar	......	......	.09a	.105a	.22a
Chicago	155.00‡	90.00‡b	4.40/4.60‡f	21.05b	31.05b	20.05bv	30.05bv	.0925bw	.1825bw	.0775b	......	.....
Cincinnati	.....	.....	.....	.....	... .	.....	....	.....	.....	.....	.....	.....
Cleveland	200.00	65.00d	5.03g	23.00A	.....	23.00A	....	.1025Aw	.....	....	.11A	.18A
Dallas	e	40.00	e	24.05	43.09	.1016	.2103	27.09	47.87	.0980	.1041	.2128
Denver	.....	50.00	.....	.....	....	.....	.....	.....	.....	.....	.....	.....
Detroit	.....	92.00	.. ..	27.21	....	27.21v	.....	.1202w	.....	.0925	.....	.2811r
Kansas City	e	e	e	16.20cl	...	.06	.....	.07•w	.....	.06c	0.10	.....
Los Angeles	e	.....	e	16.00dmx	...	16.00dvx	.. .	18.00dx	.....	17.00dv	.0825j	.1725j
Minneapolis	.....	.....	2.97h	22.00	.....	24.07	.....	.0744w	.....	.08	.10	.....
Montreal	.....	e	e	27.10n	36.65n	.135n	.193n	16.30nu	18.80nu	.132n	.184ns	.225ns
New Orleans	.....	.....	.....	17.50e	....o	17.50ev	.....o	.085ew	.....o	.0825B	.085	. ...
New York	.....	.....	3.12f	26.26q	47.59q	25.26vt	46.58vt	.1071w	.2021w	.1071	.1072	.1993
Philadelphia	175.00	110.00	4.06	22.00	....	....	.....	.095u	.....	.....	...	.....
Pittsburgh	165.00	48.00	4.60	27.00	37.00	.10	.21	27.00	40.00	.095	.10	.22
St. Louis	.....	.....	.....	18.66f	....	.1758	.....	.084/.0865•	.....	0.155	.10	.....
San Francisco	.....	55.00•	.....	17.50g	33.00gp	17.50gkv	23.00gkv	20.00g	37.50g	18.75v	.085y	....
Seattle	.....	.....	.....	17.50h	38.00h	17.25hv	.....	20.00h	..	19.75hv	.095h	.105hr

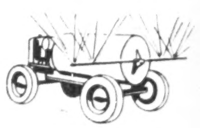
‡ Delivered.
PAVING BRICK & BLOCK: *a* CL. *b* 3½ x 4 x 8½. *c* 2½ x 8½ x 4. *d* LCL, truck deliveries. *e* Not used. *f* 2" interior 6¢ treat. *g* 3". *h* 8¢ treat. *i* 3 x 3¾ x 8½.
ASPHALTS: *a* Price at plant, Everett, Mass. *b* F.o.b. refinery, Lockport, Ill. *c* F.o.b. Sugar Creek, Mo. *d* F.o.b. refinery, El Segunda. *e* F.o.b. Baton Rouge. *f* F.o.b. Wood River or Roxana, Ill. *g* F.o.b. Richmond, Calif. *h* F.o.b. Martinez. *i* F.o.b. refinery, Baltimore. *j* F.o.b. refinery, Inglewood, Calif. *k* 50–110 penetr. *l* Less than 100 penetr. *m* 40–80 penetr. *n* Tax incl. *o* Drums not avail. *p* Shipped in steel bbl. *q* 40–85 penetr. *r* In customer's drums. *s* Shipped in drums, per drum. *t* 85–300 penetr. *u* Per 100 gal. *v* Per ton. *w* Per gal. *x* Also tank trucks *y* F.o.b. Oakland. A F.o.b. refinery, Cleveland B F.o.b. Norco, La.

(Continued on p 61)

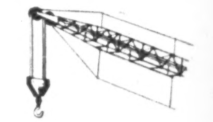
HALLETT DEPENDABLE DIESEL POWER

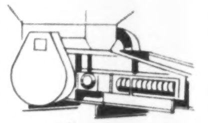
is powering a wide range of construction equipment — Your equipment will give better performance if powered with a dependable Hallett Diesel — Investigate today — Know more about Hallett — The world's finest manufacturers of low horsepower Diesel engines ideally suited for —

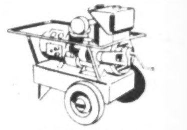

COMPRESSORS

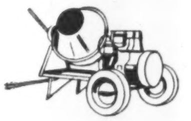

SPRAYERS

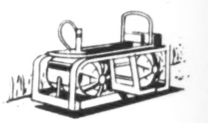
CONVEYORS

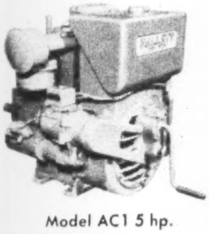

HOISTS

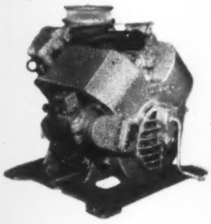

CRUSHERS

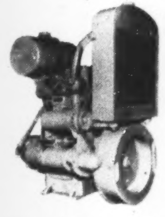

GENERATORS

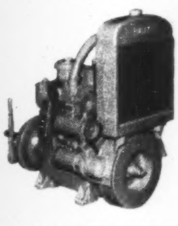

CONCRETE MIXERS

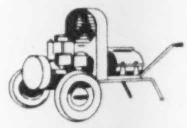

CONCRETE CUTTERS

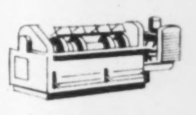

Model AC1 5 hp.

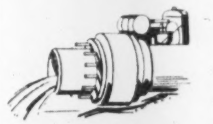

Model AC2 13 hp.

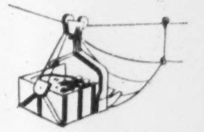

Model D1-A RSC 8 hp.

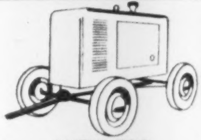

Model D2-RSC 18 hp.

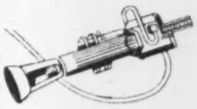

HEATERS

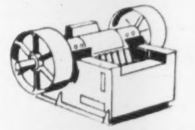

GRINDERS

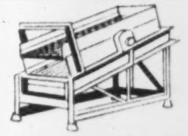

PUMPING UNITS


DRAGLINE

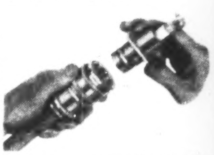

WELDERS


TAMPERS


JAW CRUSHERS

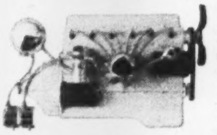

VIBRATING SCREENS

HALLETT Quick Disconnect Couplings for Coaxial Cable Use.



Investigate the advantages of compact, lightweight Hallett Quick Disconnect Couplings for coaxial cables. TV and radio installations, computers, etc. Manufactured to meet rigid military specifications and all vibration and thermal shock tests. Write for catalog and prices.

HALLETT Radio Interference Reduction and Control Equipment.



Stock kits for most engines and tailor-made for special applications. Hallett radio interference reduction and control equipment is the standard of the industry—will attenuate radio interference to a level well below acceptable limits at all times. Manufactured in accordance with Government specifications. Technical data upon request.

HALLETT MANUFACTURING COMPANY

Main Plant: 1601 West Florence Avenue, Inglewood, California, Oregon 8-4751; District Sales Offices: Washington, D.C., 13th and E Streets, District 7-0217; Detroit, Mich., Book Tower Bldg., Woodward 1-9553; New York, N. Y., Grand Central Bldg., Murrayhill 3-4752; Chicago, Ill., 600 South Michigan Blvd., Wabash 2-1343

Gentlemen: Please send me more information concerning:

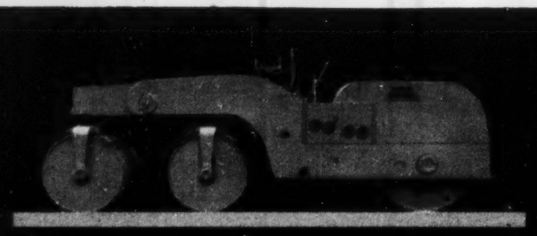
☐ Hallett Diesels
☐ Quick Disconnect Couplings for Coaxial Cable Use
☐ Radio Interference Reduction and Control Equipment

Name____________________

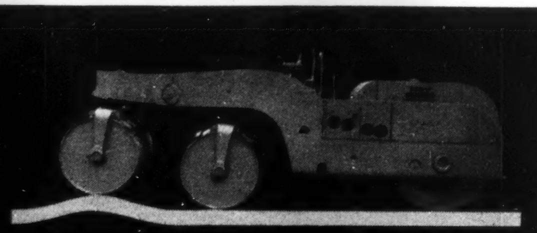
Firm Name____________________

Address____________________

City__________ Zone____ State________

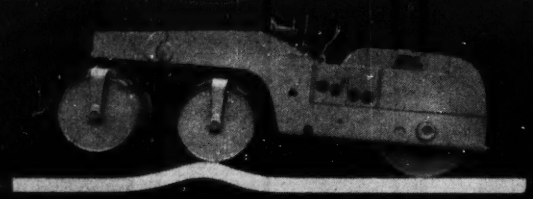


1 THIS IS WALKING BEAM COMPACTION CONTROL: Both guide rolls are suspended from a single rotating beam. When the beam is "semi-locked," the end guide roll can pivot above but not below its normal position.

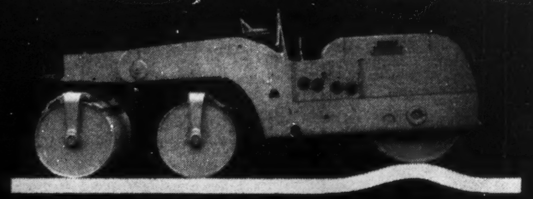


2 When the first guide roll encounters a high spot in the fresh material, the Walking Beam rotates to permit the roll to pass over the hump exerting only normal pressure. This "prepares" the material for the high compaction of the center roll.

NOW... A new 3-Axle Tandem with WALKING BEAM COMPACTION CONTROL



3 Then the center guide roll rises on the hump. The "semi-locked" Walking Beam causes the entire guide end of the roller to rise with the center roll. This lifts the end guide roll off the ground, transfers its weight, along with some of the weight of the drive roll. At this instant, the center roll exerts almost 3 times its normal compaction.



4 The drive roll exerts its normal compaction as it passes over. The Walking Beam can be used unlocked for rolling vertical curves and warped surfaces. Can also be used fully locked, if desired.

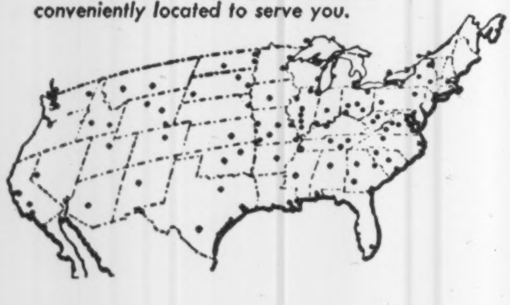
*Working Weight With Water Ballast in All Rolls, Lbs.

In 1936, Buffalo-Springfield introduced the world's first practical 3-axle tandem. Now Buffalo-Springfield engineering has further developed this revolutionary roller to give you Walking Beam Compaction Control.

With the new Walking Beam design used in the "semi-locked" position, extra compactive effort is actually applied to high spots only. This initial leveling action *does away with the need for cross rolling,* eliminates extra job time and possible damage to material that has been compacted and set.

Using Buffalo-Springfield 3-axle tandems has meant as much as *60% higher tonnage compacted* per day than with 2-axle tandems. Many states specify fewer rollers, less rolling time if 3-axle tandems are used. Save labor costs and capital investment. Roll better roads faster – the 3-axle, Walking Beam way!

There's a Buffalo-Springfield Distributor conveniently located to serve you.



WORLD'S LARGEST EXCLUSIVE MANUFACTURER OF ROAD ROLLERS

Send for new KX bulletin today!

THE STANDARD OF COMPARISON

BUFFALO SPRINGFIELD
SPRINGFIELD, OHIO

BUFFALO-SPRINGFIELD ROLLER COMPANY
SPRINGFIELD, OHIO

IRON AND STEEL PRODUCTS—PER 100 LBS. BASE MILL PRICES

	STRUCT SHAPES—	PLATE CARBON STEEL	REINF BARS billet	RIVETS ⅞-in. structural	SHEET PILING Base	STEEL RAILS Per Net Ton Standard	Light	Re-rolled	TRACK SUPPLIES Angle Bars	Std Spikes	Tie Plates	Track Bolts
Birmingham Area...	$4.10	$4.10	$4.15	$8.90	....	$86.50	$104.00	Not available	$5.275	$7.05	$5.125	....
Chicago Area......	4.10	4.10	4.15	8.90	$4.925	86.50	104.00		5.275	7.05	5.125	....
Pittsburgh Area....	4.10	4.10	4.15	8.90	4.925	86.50	104.00		5.275	7.05	5.125	$11.00
Buffalo Area.......	4.10	4.10	4.15	8.90	4.925	86.50	104.00	....	5.275	7.05	5.125	11.00
Cleveland..........	....	....	4.15	8.90	4.925	......	......	....	....	....	....	11.00
Youngstown Area...	....	....	4.15	....	....	......	......	....	....	7.05	....	....
Geneva...........	4.10	4.10	....	....	....	......	......	....	....	....	....	....
Los Angeles........	....	....	....	....	4.925	......	......	....	....	7.05	....	....
Pueblo............	4.30	4.70	4.75	....	....	......	95.00	....	5.275	7.05	5.125	11.00

IRON AND STEEL PRODUCTS—F. O. B. WAREHOUSE, PER 100 LBS., BASE PRICE

	STRUCTURAL SHAPES Per 100 lb. base price	REINFORCING BARS Per 100 lb., base price u 5 tons to carload lot b New billet	Rail steel	Add switch	$/cwt for Del.	EXPANDED METAL LATH k Per 100 sq. yd., carload lots Std. diamond mesh. 3.4 lb.	Std. ribbed 3.4 lb.	WELDED FABRIC REINFORCING d Per 100 sq. ft., carload lots 4x16 in., No. 5 & 10 wires	4x12 in., No. 8 & 12 wires	6x6 in., No. 6 & 6 wires
Atlanta.........	$7.31	$7.11	$7.11	$.025	$...	$38.00‡	$42.00‡	A.P.M.* Joliet, Illinois, Donora, Penn., $3.08 F.o.b. Mill: Monessen, Penn., $3.08	A.P.M.* Joliet, Illinois, Donora, Penn., $2.02 F.o.b. Mill: Monessen, Penn., $2.02	A.P.M.* Joliet, Illinois, Donora, Penn., $3.23 F.o.b. Mill: Monessen, Penn., $3.23
Baltimore......	6.98	6.61l	....	....	....	42.00	45.00			
Birmingham...	6.35	6.15	6.15	.05	.15	47.00p	52.00p			
Boston........	7.06a	7.22	7.22	....	— —	39.50	43.50			
Chicago.......	6.46	5.75ff	5.75ff	.0625	....	46.00C	51.00C			
Cincinnati.....	6.93ak	6.71r	....	....	.15	38.00sxee	42.00sxee			
Cleveland......	6.79	5.61v	....	— —	....	39.00‡	43.00‡			
Dallas.........	9.05	7.25	7.25	— —	....	49.00	52.00			
Denver........	7.55	7.30c	— —	— —	— —	49.00s	60.50qs			
Detroit........	6.93	7.04n	— —	— —	.20	53.00	58.00			
Kansas City...	7.05nn	7.27	....	— —	— —	42.50	44.50			
Los Angeles....	7.35fhh	6.85g	....	— —	....	51.00	57.00			
Minneapolis....	6.90hh	7.80ll	7.80ll	— —	— —	37.00	41.00			
Montreal......	8.20iB/9.20A	6.05i	6.05g	....	— —	58.00h	64.00h			
New Orleans...	....	5.98ok	....	.05	— —	66.00	60.00			
New York.....	7.20	7.01	7.01	— —	.30	38.50st	44.00st			
Philadelphia...	6.42	6.67	....	— —	....	38.00‡	42.00‡			
Pittsburgh.....	6.40	6.40	....	— —	.10	37.60	39.60			
St. Louis......	6.86a	6.30c	6.30c	— —	— —	50.00aa	55.00aa			
San Francisco..	7.25	6.85l	....	— —	— —	40.50	43.50			
Seattle........	4.85e	6.20el	....	— —	— —	57.00emm	47.00emmx			

* At Producing Mill.

‡ Delivered. *b* Less than 700# add 50¢; 700–1499# add 65¢; 1500 to 7999# add 50¢. *c* 20 tons or over base. *d* Mill price plus freight. *e* F.o.b. plant. *f* Includes delivered in free delivery zone. *g* 10,000 to 39,999 lbs. *h* List price. Dominion tax exempt. Provincial and Municipal tax extra. *i* Plus Dominion, Provincial and Municipal sales tax. *j* Price per ton. *k* F.o.b. city. *l* Intermediate and hard grade, new billet. *m* Per sq. yd. *n* 5–10 tons. *o* 5 to 20 tons base. *p* Del. of 500 sq. yd. or more. *q* Std. ribbed. 4 lb. per sq. yd. *r* 5 tons or over. *s* LCL. *t* Asphalt coated. *u* Note: Revised size extra — 1 in., 1⅛ in., 1¼ in., 30¢. ¾ in., ⅞ in., 45¢. ⅝ in., 55¢. ½ in., 80¢. ⅜ in., $1.10. ¼ in., $2.20. *v* 20 tons. Straight. *w* Copper bearing. *x* 2.5 lb. per sq. yd. *y* $0.0093 transportation tax included. *z* Copper alloy. *aa* Delivered truck to job. Contractor to do unloading. *dd* F.o.b. dock. *ee* F.o.b. cars. *ff* Carload lots. *gg* Including sales. *hh* 10,000–19,999 lbs. *ll* 5 to 8 tons, f.o.b. city. *mm* 2% off for cash. *nn* 1–5 tons. # 10 tons to CL. *a* 2000–9999 lbs. *A*. Amer. struct'l shapes. *B*. Canadian shapes. *C*. Deliv to contractor.

PLUMBING, HEATING, WATER, SEWER AND DRAIN PIPE

	C. I. PIPE Per net ton f.o.b. 6 in. to 24 in.a	ASBESTOS CEMENT PIPE per lin. ft.; f.ob. city 6" Pr Cl. 150	12" Sew Cl. I	VITRIFIED SEWER PIPE Per foot, Delivered ASTM C13-44T std. 8 in; s.s.	std. 12 in. s.s.	24 in; ds.	36 in; ds.	CLAY DRAIN TILE ASTM C4-24 Per 1,000 ft.; carload lots, f.o.b. 6 in.	8 in;	CONCRETE SEWER PIPE Per ft., delivered: ‡ASTMC 14-41 12 in.	24 in;
Atlanta.......	$101.00	$1.44	$2.42	$ .545	$1.27	$4.82	$12.925	$248.00	$356.00	$1.23	$2.62
Baltimore.....	121.50‡	1.46	2.42	.518	.999	4.095A	11.1725A	178.20	274.80	.95	2.60
Birmingham...	101.00	1.44	2.42	42	.75	2.99	....	250.00‡	375.00‡	1.25m	2.75m
Boston........	113.00	1.46	2.20	.553uvx	1.0665uvy	4.41uvy	11.90uvy	187.80v	289.20v	1.62mg	3.95mg
Chicago.......	107.00	1.44	2.20	70m	1.35m	5.62m	13.50m	150.00‡	270.00‡	.80	2.80
Cincinnati.....	106.00	1.46‡	2.29	.581y	1.120y	4.41y	11.375y	164.40	254.10	.80m	2.95m
Cleveland.....	108.00	1.46	2.29	.462x	.945x	3.69x	10.04x	158.00m	245.65m	.75m	2.95m
Dallas........	112.00	1.46	2.54	.436	.822	3.234b	9.17b	......	......	.49	1.60
Denver........	115.00	1.55	2.54	.45dd	.78dd	3.48dd	....	......	......	.74m	2.50m
Detroit........	108.00	1.46	2.29	.75	1.45	5.75	15.50	240.00m	360.00m	.80	3.20
Kansas City...	113.00	1.46	2.29	.53	.945	3.87	10.60	250.00	480.00	.70g	3.00g
Los Angeles....	133.00	1.53	2.29	.62f	1.26f	5.21f	14.89f	228.20f	348.90f	.95	2.75ff
Minneapolis*..	112.00	1.50	2.42	.72mo	1.32mo	5.32mo	....	......	......	1.38h	3.93h
Montreal......	110.00	....	....	.85z	1.50z	5.25z	8.50e	......	......	1.17j	3.11j
New Orleans...	101.50	1.44	2.42	.53	.965	5.13	....	300.00bb	500.00bb	.65	2.29
New York.....	111.35	1.46	2.20	.61	1.18	4.68	12.15	......	......	1.15	3.00
Philadelphia...	110.00	1.44	2.20	.65	1.25	4.95A	12.65A	300.00‡	350.00‡	1.55h	3.75h
Pittsburgh.....	110.00	1.46	2.20	.428m	.794m	2.97m	7.92m	152.00	244.00	1.05h	2.50h
St. Louis......	112.00	1.46	2.29	.51	.93	3.65	8.50	140.00l	280.00l	1.20j	2.85hl
San Francisco..	127.00	1.55	2.29	.61d	1.20d	5.03d	12.57d	240.00l	400.00l	.73	3.02
Seattle........	124.00	1.55	2.42	.51b	.91b	....	....	150.00c	......	.86ee	2.56ee

—*WROUGHT STEEL PIPE—
(Full standard weight)
Discount from list; see footnote

Mill	2½ & 3 in. Butt Weld† Black %	Galv. %	3½ to 6 in. Lap Weld† Black %	Galv. %
Lorain, Ohio.....	36.75	20.00	....	....
Aliquippa, Pa....	36.75	20.50	27.75a	11.00a
Sparrows Pt., Md..	34.75	18.00	22.75a	5.50
Benwood, W. Va...	36.75	20.00	26.50d	9.25d
Youngstown, O....	36.75	20.00	....	....
Indiana Harbor, Ind.	35.75	19.00	26.75ab	9.50a
Sharon, Pa.......	36.75	20.00	....	....
Wheatland, Pa.....	36.75	20.50	27.75a	11.00a
Etna, Pa.........	36.75	18.50b	26.50d	7.75d
Fontana, Calif....	23.75b	10.00b	14.75ab	0.50ab

† Threaded and coupled. *a* **3½ to 4 in.** *b* **Continuous weld.** *c* **5 and 6 in.** *d* 6 in.

‡ Delivered. *a* Class B & heavier. Based on existing freight rates; subject to rate change. Gas pipe and class A, $5 per ton additional. 4 in., $7 per ton additional. 30 in. and larger, usually $1 per ton less. *b* Extra strength ASTM C 200–44T. *c* 4-in., $90. *d* SS361-A. *e* 30-in. *f* F.o.b. factory. *g* Culvert pipe. Reinforced, ASTM C76–41. *h* Reinforced, ASTM C75–41. *i* Reinforced, ASTM C76–37. *j* Centrispun. No. standard specifications in Can. *l* F.o.b. plant. *m* Truck delivery. *o* Listed price is based on LCL (no minimum). *p* Less than 5 tons, per price per ft. *t* Within switching limits. *u* ASTM C13–40. *v* C.L.f.o.b. origin, freight allowed. *x* 2 ft. lengths. *y* 3 ft. lengths. *z* CESA A 60–1941 specifications used. *aa Extra strength ASTM C–200–50.* A standard strength. * 6", $1.67 per ft.; carlots, F.o.b. track Class 150. *bb* Freight allowed to destination in city. *cc* Truck loads; f.o.b. plant, Newton. *dd* LCL delivered, f.o.b. truck. *ee* 1% off for cash. *ff* 21.

*WROUGHT STEEL PIPE: Deduct discounts shown above from the following standard list consumers carload prices to get mill price. List prices per ft. (based on approx. $200 per net ton): *Butt Weld* ⅛ in., 5½¢; ¼ in., 6¢; ⅜ in., 6¢; ½ in., 8½¢; ¾ in., 11½¢; 1 in., 17¢; 1¼ in., 23¢; 1½ in., 27½¢; 2 in., 37¢; 2½ in., 58½¢; 3 in., 76½¢. *Lap Weld* 3½ in., 92¢; 4 in., $1.09; 5 in., $1.48; 6 in., $1.92. Add freight rates plus 3% transportation tax to get destination price.

WROUGHT IRON PIPE: List prices per ft. same as for wrought steelpipe, but add following "discounts" to get Pittsburgh mill price: *Butt Weld* — 1 in. black, + 32.75, galv. + 57.0; 1¼ in. black, + 32.75, galv. + 56.5, 1½ in. black, + 29.25 galv. + 52.75; *Lap Weld* — 2½ in. to 3 in. black + 33.50 galv. + 55.5; 4½ in. to 6 in. black + 30.50 galv. + 50.75. Add freight rates plus 3% transportation tax to get destination price.

LUMBER, TIMBER, PLYWOOD—PER M FT., B.M., CARLOAD LOTS F.O.B.

	SHORT LEAF YELLOW PINE AND DOUGLAS FIR All S. L. Y. P. is No. 2 common or better and for No. 1 N. C. Box. (Prices in Bold Face) *All Fir boards, dimensions, planks No. 2, Fir small timbers and timbers are No. 1 Lengths up to 20 ft.* *(Prices in italics)*									LONG LEAF Y. P. Merchantable grade up to 20 ft.		PLYWOOD Rail freight increment (See note for base price)	
	1x6 s4s	1x8 s4s	2x4"s4s	2x6 s4s	2x8 s4s	2x10 s4s	3x12 Rgh	6x12 Rgh	12x12 Rgh	2x12 Rgh	12x12 Rgh	⅝"	¾"
Atlanta †	$79.00	$82.50	$73.50	$76.00	$79.50	$83.00	$81.00	......	......	......	......	$22.32	$27.24
Baltimore *	89.00	92.00	76.00	76.00	76.00	82.00	111.50	......	......	$155.00	$155.00	25.92*	31.60*
	103.00g	*103.00g*	*98.50g*	*98.50g*	*98.50g*	*98.50g*	*103.00*	*$111.00*	*$111.00*	......	......	.....	.....
Birmingham †	80.50	82.50	70.50	80.50	83.50	85.50	95.50	......	......	115.50	155.50	21.78	26.58
	83.50	*83.50*	*77.50*	*79.50*	*78.50*	*78.50*	*83.50*	*85.50*	*85.50*	......	......		
Boston	101/105a	103/109a	94/100*	93/102*	95/105a	98/110a	......	......	......	......	......	25.92*	31.60*
§	*94.00**	*94.00*	*96/100*	*97.00*	*97.00*	*96/100*	*108/110*	*108.00*	*110.00*	......	......	.....	.....
Chicago **	95/96	99/100	86/87	95.00	97.00	100/101	104.00	......	....	132.00	132.00	22.45*	27.37*
	95/96	*95/96*	*98.00*	*99.00*	*100/101*	*102/103*	*108.00*	*108.00*	*108.00*	......	......	.....	.....
Cincinnati *	99.00	105.00	88.00	98.00	105.00	110.00	122.50	......	......	145.00	145.00	25.00*	30.48*
	111.75	*111.75*	*113.50*	*112.00*	*113.50*	*111.75*	*140.75*	*140.75*	*140.75*	......	......	.....	.....
Cleveland **	92.00	94.00	87.00	93.00	95.00	98.00	......	......	......	......	......	25.37*	30.93*
	......	......	*97.00*	*98.00*	*98.00*	*98.00*	*108.00*	*108.00*	*108.00*	......	......	.....	.....
Dallas k†	78.00	80.00	69.00	58.00	59.00	59.00	......	......	......	97.00	98.00	18.72	22.80
Denver *	*Not in stock*		*109.00*	*109.00*	*107.00*	*111.00*	*121.00*	*135.00*	*140.00*	......	......	13.92	16.98
Detroit ‡	110.00	115.00	101.00	110.00	114.60	116.00	......	......	......	......	......	25.00*	30.48*
	98.50	*99.50*	*101.50*	*102.25*	*101.25*	*100.00*	*110.50*	*122.50*	*122.50*	......	......	.....	.....
Kansas City *	122.00	122.00	122.00	122.00	122.00	122.00	......	......	......	......	......	16.56	20.16
	110.00	*110.00*	*110.00*	*110.00*	*110.00*	*110.00*	*133.50*	*142.50*	*142.50*	......	......	.....	.....
Los Angeles ¹	*90.00*	*90.00*	*90.00*	*90.00*	*90.00*	*90.00*	*112.00*	*122.00*	*112.00*	......	......	16.61*ab	20.25*ab
Minneapolis ♯	*135.00*	*135.00*	*135.00*	*135.00*	*135.00*	*135.00*	*155.00*	*155.00*	*155.00*	......	......	19.89*	24.25*
Montreal	ab90.00	92.00	92.00	92.00	102.00	102.00	......	......	......	......	......	.....	.....
	165.00	*165.00*	*165.00*	*165.00*	*165.00*	*165.00*	*165.00*	*165.00*	*165.00*	......	......	.....	.....
New Orleans †	100.00	100.00	92.50	85.00	90.00	94.00	118.00	......	......	150.00	148.00	18.72	22.80
†	*97.00*	*101.00*	*109.50*	*109.50*	*107.50*	*107.25*	*107.50*	*117.50*	*107.50*	......	......	.....	.....
New York ²	105.00	108.00	110/115	115/120	120/125	125/130	150/160	......	......	210/240	210/240	25.92*	31.60*
	......	......	*Range from $112.00 to $117.00*				*130/145*	*144/158*	*144/158*	......	......	.....	.....
New York **	89.00	91.00	80.00	89.00	91.00	92.00	130.00	......	......	190.00	190.00	.....	.....
	90.00	*90.00*	*94.00*	*95.00*	*95.00*	*95.00*	*110.00*	*115.00*	*115.00*	......	......	.....	.....
Philadelphia ‡			Range from $110.00 to $127.00				110/127	......	......	210/220	210/220	25.92*	31.60*
			Range from $120.00 to $150.00				*130/140*	*150.00*	*150.00*	......	......	.....	.....
Pittsburgh †			Range from $90.00 to $95.00			......	110/120	......	......	110/120	115/125	25.92*	31.60*
			Range from $110.00 to $120.00			......	*130/140*	*140/155*	*140/155*	......	......	.....	.....
St. Louis	♯c107.00e	110.00e	101.00d	111.00d	117.00e	118.00e	......	......	......	......	......	18.72	22.80
	......	......	*112.00i*	*118.00e*	*118.00e*	*117.00e*	*155.00e*	*175.00*	*195.00*	......	......	.....	.....
San Francisco A†	*61.00*	*61.00*	*60/62*	*60/62*	*60.00*	*59.00*	*65.00*	*64.00*	*64.00*	......	......	12.22*a	14.91*a
Seattle †	*80.00g*	*80.00g*	*80.00g*	*80.00g*	*80.00g*	*80.00g*	*85.00g*	*85.00g*	*85.00g*	......	......	.....	.....

† F.o.b. mill. * F.o.b. city, CL, out of yard. ** F.o.b. city, CL, direct mill shipment. ‡ Deliv. to contr. CL. 1. Retail, LCL, at yard. ♯ Retail, LCL, deliv. 2. Deliv. truck lots. 3. asd.

LUMBER: **Bold Face type, Southern Pine.** *Italics, Douglas Fir.* *a* Spruce *b* Tax exempt. *c* 5M lots. *d* 8–12 ft. lengths. *e* 8–16 ft. lengths. *f* 18 ft. or under. *g* No. 1 common. *i* 8 ft. lengths. *k* No. 3 common: *l* 8–10 ft. lengths. *n* ⅓ #1, ⅓ #2 & ⅓ #3.

A Rail freight rate from Northwest mills to San Francisco are $11.50 to $15.00 per M ft bm. From Northern Calif. mills $9.00 by rail, $9.50 by truck. All rates for surfaced stock. For rough, add $3.00 to above figures.

PLYWOOD: Plyform grade Fir Plywood, 4′ by 8′ panels, 5-ply, sanded 2 sides, water resistant glue, carload lots, delivered per 1,000 sq. ft. surface. Seattle base price on ⅝", $179.00; on ¾", $202.00. Exterior plyform ⅝" $199.00, ¾" $223.00. For other centers add rail freight increment from table on proper size Oiling and edge sealing charges included. *a* Lower rate by water shipment. *b* 50,000 lb. minimum.

* Incl. new freight rates. Rates for other cities not avail. as we go to press.

GLASS, EXPLOSIVES, CHEMICALS

	WINDOW GLASS Discounts from jobbers list, Feb. 1, 1950*a* Single or Double Thickness A quality	 B quality	EXPLOSIVES Per lb. 40% Ammonia Gelatin in 50 lb. cases delivered in 200 lb. lots*
Atlanta	79%	80%	$0.2365
Baltimore	76%*d*	78%*d*	.2365
Birmingham	83%	83%	.1840
Boston	77–10%	77–10%	.2365
Chicago	76%	76%	.2365
Cincinnati	78%	78%	.2365
Cleveland	76–10–10%	76–10–10%	.2765
Dallas	75%	75%	.2440
Denver	80%	80%	.2415
Detroit	78–10–10%	78–10–10%	.2365
Kansas City	80–10%	80–10%	.2415
Los Angeles	73%	78%	.2390
Minneapolis	78–10%	78–10%	.2415
Montreal	40–5%*bc*	40–10–5%*b*	21.60*hi*
New Orleans	78%	77%	.2415
New York	82–10%	82–10%	.3975*g*
Philadelphia	78%	80%	.2365
Pittsburgh	82%	82%	.2090
St. Louis	80–10%	80–10%	.2415
San Francisco	70%	70%	.2365
Seattle	75%	78%	.2390

Price of 60% Ammonia Gelatin is $0.15 per lb. higher than 40%

Glass; a Jobbers' list price per box, 14 x 20, ss, $42.75 for A quality, $37.50 for B quality; 14 x 20, ds, $60.00 for A quality, $52.75 for B quality. *b* Discount from list, Apr. 1951; sales tax included, but 3% tax exemption not allowable for. *c* Single thickness. *d* Discount 6/15/52.

Explosives; * Urban prices influenced by service charges or local storage and delivery regulations do not consistently reflect quantity prices in less congested areas. *g* In borough of Kings, Queens and Richmond and in Manhattan south of Canal St., add delivery charge of $20.00 per trip. *h* F.o.b. city per 100 lb. forcite, 40% Forcite 60%, $23.35. *i* F.o.b. Beloeil (near Montreal).

40% Ammonia Gelatin price ranges in other than urban areas, per lb. (except Seismograph Grades)

	C/L 20,000 lb. net	Tons	200 lb. lots
E. of the Miss., except Fla. and Me.	$0.184	$0.2165	$0.2365
W. of Miss. to Rocky Mtn. States, Fla. and Maine	.189 – .1965	.2215–.229	.2415–.249
Rocky Mtn. States	.189 – .2015	.2215–.229	.2415–.254
Pacific N. W. States	.1865–.199	.219 – .2315	.239 – .2515
Pacific S. W. States	.184 – .1915	.2165–.219	.2365–.2415

PILES, TIES F. O. B.

PILES

Prices per linear foot, fir and pine, bark off, f.o.b. cars, New York. Fir based on Wash. and Ore. points to New York shipping area; pine based on freight from Norfolk.

			By Rail	
Dimensions	Points	Length	Pine*	Fir
12-in. at butt	6-in.	30 to 50-ft.	$0.51	....
12-in.— 2-ft. from butt	6-in.	50 to 59-ft.	.54	....
12-in.— 2-ft. from butt	6-in.	60 to 69-ft.	.58	....
12-in.— 2-ft. from butt	6-in.	90 to 100-ft.	....	....
13-in.— 3-ft. from butt	5-in.	91 to 100-ft.	....	....
14-in.— 2-ft. from butt	6-in.	50 to 69-ft.	.50/.68	....
14-in.— 2-ft. from butt	6-in.	70 to 79-ft.	.78/.83	.93
14-in.— 2-ft. from butt	5-in.	80 to 85-ft.	.83/.93	.94
14-in.— 2-ft. from butt	5-in.	85 to 89-ft.	....	1.00
14-in.— 2-ft. from butt	5-in.	90 to 100-ft.	....	1.02

* Pine piling over 80-ft. available only in limited quantities.

/RAILWAY TIES

Prices f.o.b. per tie for carload lots:		6"x8"x8′ Untr.	 Tr.	7"x9"x8′6" Untr.	 Tr.
Boston	Oak::*i*	....	....	....	....
	Pine*i*	....	....	....	....
New York	S. L. Sap Pine	$2.55	$4.35	$3.45	$5.45
	Mixed Oak	3.10	4.65	3.70	5.95
Birmingham	Hardwood:	2.40	3.88*a*	2.85	4.58*a*
Chicago	Red Oak	....	3.60*a*	....	4.60*a*
Los Angeles	Douglas Fir	....	....	....	....
	Redwood:	....	....	....	....
Philadelphia	Red Oak	2.55	3.90	3.45	5.10
St. Louis	White Oak	3.08	....	3.90	....
	Red Oak	2.98	3.75*a*	3.72	4.88*a*
	Sap Pine or Cypress	....	3.56*a*	....	4.64*a*
San Francisco	Douglas Fir	2.20*e*	3.25*ef*	2.92*bf*	4.30*caf*
Montreal	Birch or Maple	....*h*	....*h*	....*h*	....*h*

Tr.— Treated; Untr.— Untreated. *a* Creosoted. *b* 7" x 9" x 8′. *c* Empty cell. *e* Green. *f* F.o.b. cars. *h* No constant price available. *i* Not available.

CHEMICALS

Water, sewage treatment, road work, f.o.b. carlots, New York

Bleaching powder in drums f.o.b. works, per 100 lb::	$5.02
Chlorine cylinders, liquid, per lb. f.o.b. works	.0825
Calcium chloride, 77–80%, flaked, 100-lb. paper bag, f.o.b. works, ton	25.00
Silicate of soda, 52 deg., in drums, f.o.b. works, per 100 lb::::	2.30
Soda ash, 58%, in paper bags, per 100 lb. dense	1.75
Sulphate of aluminum, commercial, in 100-lb. bags f.o.b. works	1.85
Sulphate of copper, in bags, 99% per 100 lb. f.o.b. works:::	10.35

STRUCTURAL CLAY BUILDING TILE, BRICK AND LIME—DELIVERED

	STRUCTURAL CLAY TILE PARTITION — SCORED Per M. lots of 2,000 pieces or over, 3x12x12 in.			STRUCTURAL CLAY TILE — LOAD BEARING — SCORED Per M. lots of 2,000 pieces or over, 8x12x12 in.			BRICK Per M. in quantity		LIME Per ton, In paper, Carload lot,		
	3x12x12 in.	4x12x12 in.	8x12x12 in.	8x12x12 in.	10x12x12 in.	12x12x12 in.	Common backing	Straight hard	Hydrated finishing	Common hydrated	Pulverized, or lump
Atlanta	$195.00	$207.00	$247.50	$327.00	$342.00	$381.50	$27.38	$27.38	$19.00	$17.50	$17.50
Baltimore	186.00	198.35	372.00	421.50	549.00	627.00	36.00k	41.00k	32.00	21.00	....
Birmingham	126.00p	136.00p	......	284.00p	.....	.....	23.50ff	28.00gg	29.25	17.30	.
Boston	196.00†	209.00†	392.00†	383.25†	......	.....	36.85p	39.85p	30.00†	28.00†	.
Chicago	135.00	145.00	280.00	.....	.....	. .	26.00	28.00	30.80	26.00	....
Cincinnati	185.00j	195.00j	340.00jdd	......	......	......	40.00j	46.00j	26.72j	26.72j	.....
Cleveland	172.00**	183.00**	......	.....	......	......	34.50	34.50	28.25	23.25	32.00ee
Dallas	......	118.00	.....	......	. . .	. ...	19.75	35.25	32.00	21.80	.....
Denver	......	......	......	......	......	......	34.00	41.00	34.80bb	28.00bb	34.00bb
Detroit	127.75	136.25	255.55	......	317.25	362.60	36.60cc	34.60cc	33.50	31.50	.....
Kansas City	127.50	147.50	270.00	270.00	340.50	400.00	28.50	.....	32.00	26.00	28.50
Los Angeles	r	r	r	r	r	r	27.50§	.....	34.00	34.00	35.00
Minneapolis	172.00p	193.00p	400.00p	193.00wp	......	......	34.00vp	43.00	39.00bbe	29.00bbe	41.00bbde
Montreal	165.00aq	181.00au	325.00au	230.00	248.00	......	38.50	48.00	34.80	32.50	26.00u
New Orleans	170.00	170.00	310.00	380.00	......	......	31.00	.....	.....	28.00	28.00
New York	138.70h	147.90h	203.40ch	221.90hn	......	......	35.00	.....	36.00	32.00	...
Philadelphia	145.30	155.00	290.60	348.70	......	......	30/34	35/42	25.00	23.00	2.97
Pittsburgh	112.00	117.00	189.00	216.00	279.00	317.00	36.00	46.00y	25.00	23.00	2.97m
St. Louis	142.00cc	165.00cc	316.00cc	465.00cc	439.00	621.50	40.00sl	36.00s	.90saa	.70saa	1.10aaspee
San Francisco	156.85a*	177.10a*	235.30dda*	......	......	......	37.00	.....	26.60	26.60	2.65m
Seattle	223.00cc	230.00cc	......	240.00ccw	......	......	39.00s	49.00s	37.50shh	1.45#	3.90mhh

† F.o.b. yard Roxbury. *a* Smooth. *b* Per 50 lb. bags. *c* 6 x 12 x 12 in.-3 cell. *d* Pulverized hot. *e* 5%, 10th following month. *g* 5¼ x 8 x 12. *h* F.o.b. trucks, job site N.Y.C. *j* Truck load or over. *k* $1.00 discount *l* Red face. *m* Per bbl., 180 lb. *n* 7¾ x 7¾ x 12. Speed title. *p* Truck lots. *q* Provincial and Municipal tax extra. *r* Not used because of earthquake danger. *s* 2% discount for cash. *t* 5¼ x 8 x 11¾. *u* Tax exempt. *v* Sand lime. *w* 5 x 8 x 12. *y* Stacked. *z* Pebble lime price per 80 lb; sack. *aa* Price per sack. Lime not sold per ton. *bb* LCL. *cc* Truck delivery. *dd* 6 x 12 x 12. *ee* Pebble lime. *ff* 80% common. *gg* Select. *hh* LCL. § F.o.b. yard. # Per 60 lb. sack, no incr., ton price no longer quoted. ** Warehouse delivery. * F.o.b. Stockton.

PAINT, ROOFING—F.O.B. CARLOAD LOTS

	RED LEAD Per 100 lb. in 600-lb. (Approx.) bbl. Dry *a*	WHITE LEAD‡ Per 100 lb. in 100 lb. cases in oil *w*	READY-MIXED PAINT Per gal., drums Graphite *b*	Aluminum *c*	Ferric Oxide *d*	ROOFING SUPPLIES Carload lots f.o.b. factory Rolls, slate surfaced, 85–90 lb. per sq.	Asphalt felt, per 100 lb.	Tar felt, per 100 lb.	Asphalt coating per gal.	Tar pitch 380 lb. bbl per ton
Atlanta	$17.00	$28.275	$3.26	$3.51	$3.01	$2.74	$3.01	$2.98	$0.405	$39.75
Baltimore	16.75	27.90	2.65	4.10	3.22	2.66	4.43	4.43	.47	45.56
Birmingham	17.00	28.275	3.90	3.40	....	2.93	2.93	2.93	....	42.00ee
Boston	16.75	27.90	....	...	....	2.91og	2.97og	2.97og	.42g	45.70g
Chicago	16.75	27.90	....	. .	...	3.29‡u	3.29‡o	3.29‡o	38.00‡bbr	48.00‡
Cincinnati	16.75	27.90	....	....	....	2.66	2.66	2.66	.46y	46.56
Cleveland	16.75	27.90	2.33pgg	2.79gg	2.44gg	2.83q	2.83o	2.83o	.43y	40.70hh
Dallas	17.00	28.65	....	4.05	....	3.50q	3.75o	4.35o	.36	46.00
Denver	17.25	28.40	3.07	5.15	2.87	2.66o	2.61o	2.61o	.43ff	47.00
Detroit	16.75	27.90	2.35	3.25	2.50	2.83	2.66j	2.66	.51	44.00
Kansas City	16.75	28.65	....	2.71ys	2.65	2.93	2.93o	2.93o	.43s	53.00
Los Angeles	16.75	28.15	3.30s	4.50s	4.20s	2.48s	1.66es	l	.55s	l
Minneapolis	16.75	29.88/28.02	....	....	....	2.66idd	2.66hidd	2.66hidd	.44idd	40.70r
Montreal	.....	21.95	2.95Dff	4.05Eff	3.25Fff	4.85t	3.65tf	3.65tf	1.24kt	3.78hs
New York	16.75	27.90	....	....	....	2.66G	2.66Go	2.66Go	.44Gz	40.70*
Philadelphia	16.75	27.90	3.25	3.65	3.15	2.54	2.94	2.94	.37	26.00
Pittsburgh	16.75	27.90	2.65	2.85	3.15	2.85	3.00o	3.00o	.35	43.00
St. Louis	16.75	27.90	....	....	....	2.67	2.67h	2.67h	.39y	41.70
San Francisco	16.75	28.15	2.40	....	3.40	2.95	4.00aa	....	.49	.....
Seattle	16.75	28.40	2.96m	2.80m	....	3.58mqcc	3.05hmcc	....	.59mcc	52.00jms

‡ Delivered. Note: Red lead in oil 50c higher than white lead in oil. *a* Red lead prices change frequently due to pig lead price changes. *b* U. S. War Dept. Spec. 3-49A. *c* ASTM Spec. D266–31. *d* 80% minimum ferric oxide. *e* 15 lb. *f* Per 432 sq. ft. *g* F.o.b. yard, Roxbury. *h* Per roll. 65 lb. *i* Net carload lot prices; Minneapolis and vicinity. *j* Asphalt pitch. *k* Per cwt. *l* Not used. *m* 1% discount for cash. *n* F.o.b. city. *o* Per 60-lb. *p* 6-drum. *q* Per 90-lb. roll. *r* F.o.b. factory Chicago. *s* 466 Med. *t* Federal tax included. *u* Per 90 lb. square. *v* Per ton. *w* Price to large paint contractors is $1.25 less. *x* Mineral surfaced. *y* 55-gallon container. *z* Drums. *aa* Approximate cost per 100 lbs. *bb* Roofers coating and cement; Price per ton. *cc* LCL, truck delivery. *dd* 2% cash discount. *ee* Asphalt; in 100 lb. package. *ff* 5-gal. drums. *gg* F.o.b. factory. *hh* Incl. freight; *D*. Std Black. *E* Ready-mixed, *F*. Over 80% ferric oxide. * Aver. wt: approx. 500 lbs. *G* Freight allowed to destination not exceeding .50 cwt.

SKILLED AND COMMON WAGE RATES—PER HOUR

	Bricklayers	Carpenters	Struct. Iron Workers	Hoisting Engineers	Plasterers	Electrical Workers	Steamfitters	Common Labor Building	Common Labor Heavy Const.
Atlanta	$3.10	$2.50	$2.75	$2.50	$2.75	$2.75	$2.90	$1.28	$1.28
Baltimore	3.20d	2.75	3.275i	3.10/3.25	3.075f	2.875	2.975t	1.675i	1.675i
Birmingham	3.00	2.24	2.90	2.16	2.62	2.875	2.80	1.30	1.40
Boston	3.185e	2.75	2.95	3.00	3.20l	3.00d	2.95d	1.99u	1.99u
Chicago	3.40k	3.15v	3.20m	3.00m	3.525s	3.37f	3.24e	2.35h	2.35h
Cincinnati	3.225	2.625w	2.915	2/2.50/3.05w	3.05	3.00	3.05	2.02	2.02
Cleveland	3.25t	3.20#	3.20t	3.20	3.20	3.20	3.20e	2.45	2.45
Dallas	3.50	2.625	2.75	2.75	3.437	2.90	2.90	1.40	1.35
Denver	3.50	2.775	2.75	2.705	3.30	3.00	2.97	1.80	1.80
Detroit	3.30m	3.08a	3.23z	3.20m	3.32l	3.22H	3.075h	2.28m	2.28m
Kansas City	3.625	2.675	2.805	2.64/2.885	3.25	2.80	2.90	1.98w	1.98
Los Angeles	3.285G	2.70	2.925h	2.57	3.437	3.10	2.90	2.05	2.05
Minneapolis	3.125	2.70	2.82	2.65	2.90w	3.00n	2.875	1.95	1.95
New Orleans	3.05	2.42	2.80m	2.60	2.625	2.925	2.75v	1.375	1.375
New York	3.874br	3.43bJ	3.656B	3.69J	4.00A	3.63asF	3.445bp	2.20	2.20
Philadelphia	3.61i	3.10	3.32j	3.05/3.30	3.475h	3.45w	3.29o	1.875	2.175
Pittsburgh	3.475	3.20h	3.225h	3.25h	3.30h	3.35	3.00	2.025h	2.025h
St. Louis	3.62c	2.975A	3.025h	3.00	3.25h	3.117c	3.05B	2.075h	2.075h
San Francisco	3.40bk	2.83	3.00	2.66	3.275e	3.175	3.35	2.00	2.00
Seattle	3.30	2.58	2.78	2.71	3.15	2.80	2.75	2.18	2.14
Montreal*†	1.90	1.70	1.80	1.60	1.90	1.80	1.85	1.20	1.20

* Cost of living bonus now included in basic wage. # Includes 5¢/hr tool replacement. † Plus 2½% vacation pay.

a 6 hr. day. b 7 hr. day. c Incl. 3% vac. stamp fund plus 7¢ WF for bricklayers; 4% for electricians plus 2½% WF, 1% PF d Incl. 10¢ H&WF. e Incl. 6¢ H&WF. f Incl. 6% WF. g Incl. 11½¢ WF. h $2.625 homes & housing plus 7½¢ VF. i Incl. 3½% WF and 15¢ PF. j Incl. 10½¢/hr WF. k Incl. 7½¢/hr WF. l Incl. 4% VF. m Incl. 5¢/hr WF. n Incl. 20¢ H, W, Ins., Vac. & Retirement. o Incl. 10¢ PF, 8¢ WF. p Incl. 3% WF, 3% PF. r Incl. 3½% WF and 20¢ PF. s Incl. 5% W&PF, 4% VF, 1% NC, 6 PH. t Incl. 7½¢ H&WF. u Incl. 1½% WF. v Incl. 10¢ WF. w Negotiating. x Incl. 8¢ WF. z Incl. 22½¢ WF. a Incl. 7½¢ IF, 5¢ H&WF. A Incl. 10¢ WF, 10¢ PF & 20¢ B.F. B Incl. 3% WF, 6 PH. C Incl. 2½¢ H&WF. E Plus 5% WF, plus travel pay per day. F Plus $1/per day travel time. G Incl. 11¢ H & WF. H Incl. 7¢ WF. I Incl. 15¢ H&WF. J Incl. 4% WF, 6PH.

MEXICO CITY PRICES

In Pesos, F.o.b. City		June '53	July '53
Common Wages—Building (8 hr. day)	av. per hr.	1.06*	1.06*
Common Wages—Heavy Const. (8 hr. day)	av. per hr.	1.25*	1.25*
Skilled Labor Wages			
Carpenters (8 hr. day)	av. per hr.	2.25*	2.25*
Bricklayers (8 hr. day)	av. per hr.	2.25*	2.25*
Struct. Iron Workers (8 hr. day)	av. per hr.	1.88*	1.88*
Struct. Steel Shapes 3"-15" x 12 meters	per metric ton	1224.23	1224.23
Reinf. Steel, Corr. Rods			
⅜" x 11 meters	per ton	1386.77	1386.77
½" x 11 meters	per ton	1375.56	1375.56
⅝" x 11 meters	per ton	1364.35	1364.35
¾" x 11 meters	per ton	1353.14	1353.14
⅞" x 11 meters	per ton	1353.14	1353.14
1" x 11 meters	per ton	1353.14	1353.14
Gravel truck load of 3½ cu. meters			
Blue Gravel	per tr. load	55.00	55.00
Rose Gravel	per tr. load	52.00	52.00
Cement, Std. Port. (Tolteca)	per ton	160.00	160.00
Lumber			
Mex. Sacred Fir (OYAMEL)	per M ft.	750.00	750.00
1st Class Pine	per M ft.	1350.00	1350.00
2nd Class Pine	per M ft.	1100.00	1100.00

* Increase by 1/6th—work 6 days, paid for 7 days.

ENR Skilled Average: (Bricklayers, Carpenters, Iron workers): $3.062 **ENR Common Average:** $1.92

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"Standard of the Highway"

CONSTRUCTION REPORTS

Bids Asked—Low Bidders—Contracts Awarded—First Section—

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 36, N. Y., ELSIE EAVES, Manager
J. A. MAHONEY, M. O. WETZEL, L. M. WINISKI, M. E. SCIORRA, F. S. DEMBEK, Reports.
J. H. WEBBER, M. R. ROESSLER, E. R. HUBER, Statistics.

NEW ENGLAND

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

MASSACHUSETTS—Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston, Mass.

Coleman Bros Corp., 40 Central St., Boston, Mass. LB. **$747,734**. est. $720,000. Hunt's Falls Bridge, Lowell. Bids July 21. CD 7/8.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **Bangor Garden Homes, Inc.**, c/o S. & A. Allen Constr. Co., 9 Newbury St., Boston, Mass. CA. **$1,250,000**. construct, manage, finance, HOUSING proj. Kenduskeag Ave., BANGOR, ME. First Naval Dist., 495 Summer St., Boston, Mass. CD 5/19.

▲ **Wexler Constr. Co.**, 118 Needham St., Newton, Mass., CA. **$1,813,000** MR-48 moderate rental HOUSING, NEW LONDON, CONN. City, New London Housing Auth., 97 Laurel Dr., New London, Conn. Bids July 15. CD 7/21, under LB.

MIDDLE ATLANTIC

BIDS ASKED—BUILDINGS

N. Y., Mariners Harbor—SCHOOL—B.A. 8/18—Bd. Educ., 49 Flatbush Ave. Ext. Brooklyn Zone 1, general constr. plumbing and drainage; heating and ventilating; electrical and lighting fixtures for new addn. to and modernization of existing bldg. P. S. 22. Forest Ave. and Sander St. $882,080. Plans deposit $15 general constr. $6 each plumbing and drainage, heating, and ventilating, $7 electric work and lighting fixtures. CD 10/8/48.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ **Moore Lopier Corp.**, E. Marginal R. D., Welfare Island, Bronx, N. Y., LB. **$1,162,896**. est. $1,183,000, storm sewer interceptors and misc. work 1.25 mi. New York State Thruway-Southern West. Connection Sub. 11 (N. Y. City Line-Tuckahoe Rd.) S.W.C. 53-1, Westchester Co. NEW YORK Bureau Contracts & Accounts, The Governor Alfred E. Smith State Office Bldg., Albany, N. Y. Bids July 23. CD 7/1.

NEW YORK—Bureau Contracts & Accounts, The Governor Alfred E. Smith State Office Bldg., Albany,

The Branalli Constr. Co., Southington, Conn., LB **$644,085**. est. $735,000, 0.95 mi. grade crossing elimination of the N.Y.C.R.R. with Hollowville-Craryville, SH 763, FARC. 53-92, FGRC. 53-93, Columbia Co. Bids July 23. CD 7/1.

▲ **Horn Constr. Co.**, 2174 Hewlett Ave., Merrick, N. Y. LB **$1,378,800**, Contr. No. 8, concrete ramps on Brooklyn and Queens approaches of New Vernon Avenue Bridge between Brooklyn and Queens Boros. BROOKLYN, N. Y. Dpt. P. Wks., Municipal Bldg., New York 7, N. Y. Bids July 14. CD 6/29.

PENNSYLVANIA—State Hy. Dpt., 506 N. Office Bldg., Harrisburg,

New Enterprise Stone & Lime Co., New Enterprise, Pa. CA **$539,479**. widening 52,305 ft. existing road with crushed aggregate base 4 ft. 10 in. wide, bit. surf. new and existing base, T.R. 219, Somerset Co. Bids July 10. Awarded July 23. CD 7/15 under LB.

▲ **Roberts & Schaefer Co.**, Box 543, Ellsworth, Pa., CA **$1,881,531**, sewage disposal plant and sewage sys., Chartiers Valley, WASHINGTON, PA. Joint Auth. of Washington and East Washington, 121 S. Main St., Washington, Pa. Bids Apr. 27. CD 4/2.

MARYLAND—State Rd. Comn., 108 E. Lexington St., Baltimore.

Bero Engr. & Constr. Co., Box 477, Hampton, Va., LB **$691,955**. grading, drainage, surf. 1.881 mi. U.S. Rte. 40, F 537-5-715, near Ridgeville, Frederick Co. Bids July 21. CD 7/9.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **Thompson-Berg, Inc.**, 250 E. 43 St., New York, N. Y. CA **$1,000,000**. CHURCH 833-47 Marcy Ave., BROOKLYN, N. Y. Concord Baptist Church of Christ, 367 Putnam Ave., Brooklyn, N. Y. CD 1/15.

F. D. Rich Co., 332 Main St., Stamford, Conn. CA **$697,000**. est. $700,000. LAUNDRY bldg., covering heating, sanitary and electric elevator work, Kings Park State Hospital, KINGS PARK, N. Y. Bureau Contracts & Accounts, The Governor Alfred E. Smith State Office Bldg., Albany, N. Y.

▲ **Benton Associates**, 170 Broadway, New York, N. Y. CA **$7,000,000**, 22-story OFFICE, bsmnt. and subbsmnt. for garage for tenants cars, Whitehall St., Stone and Bridges Sts., NEW YORK, N. Y. Syndicate, c/o Wm. A. White & Sons, Inc., 51 W. 42 St., New York, N. Y. Brown, Guenther & Booss, 1860 Broadway, New York, N. Y., archts.

320 West 90th St. Corp., 120 Central Park West, New York, N. Y. Separate Contracts. **$900,000**. 6 story APARTMENT, 235 St. between Cambridge and Oxford Aves., NEW YORK, N. Y. Albert Goldhammer, 6 Varick St., New York, N. Y., archt. CD 1/28, under Elbridge Realty Corp.

▲ **Leimbach Constr. Co.**, 3906 Hickory Ave., Baltimore, Md. LB **$2,484,350**. est. $1,400,000. 2 and 3 story Woodbourne Junior High SCHOOL, Woodbourne and Beauregard Aves., BALTIMORE, MD. City, Bureau Bldg. Constr., 410 Municipal Bldg., Baltimore, Md. CD 12/31/52.

▲ **John McShain Inc.**, 3 W. Franklin St., Baltimore, Md. CA **$1,192,000**. ENGINEERING BLDG., BALTIMORE, MD. Johns Hopkins University, Charles and 32 Sts., Baltimore, Md. CD 7/21 under LB.

▲ **Mullan Contrg. Co.**, 3945 Greenmount Ave., Baltimore, Md., LB **$2,600,000**. est. $2,800,000. concrete, steel, brick, block Kenwood Senior HIGH SCHOOL, Stemmers Run Rd., Middle River, TOWSON, MD. Baltimore Co. Bd. Educ., Aigburth Rd., Towson, Md. Bids July 21. CD 7/7.

SOUTH

BIDS ASKED—HEAVY CONSTRUCTION

Ga., Gainesville—B.A. 8/17—City, City Hall water treatment plant, $763,000. Robert & Co. Assocs., 96 Poplar St. N.W., Atlanta, Ga., engrs. Extended date. CD 6/15.

BIDS ASKED—BUILDINGS

S. C., Columbia—PLANT—B.A. 8/18—The State Co., 1220 Main St., newspaper publishing plant. $750,000. Extended date. Robert & Co. Assoc., 96 Poplar St., N. W. Atlanta, Ga., archts. CD 7/22.

Va., Yorktown—SCHOOLS—B.A. 8/20—York County School Bd., Yorktown, 1 story masonry high school: $550,000; Plans deposit $30; Burton District Elementary School. Plans deposit $20. Williams, Coile & Blanchard, 3415 Virginia Ave., Newport News, archts. CD 9/23.

SOON LETS CONTRACT—BUILDINGS

La., Monroe—DEPARTMENT STORE—Sears, Roebuck & Co., 675 Ponce de Leon Ave., Atlanta, Ga., soon lets contract, department store. $750,000. CD 5/12.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

Powell Bros. Inc., 14 S. W. 1 Ave., Ft. Lauderdale, Fla., CA, **$844,280**, water treatment plant, FORT LAUDERDALE, FLA. City, Ft. Lauderdale, Fla. Bids July 10. CD 7/16, under LB.

Ledbetter-Johnson Constr. Co., Rome, Ga., CA, **$258,786**, street Imprvs., GUNTERSVILLE, ALA. City, City Hall, Guntersville, Ala. Bids July 21. CD 7/14.

BUILDINGS

LOW BIDS AND CONTRACTS

▲† **Tidewater Const. Corp.**, P. O. Box 598, Norfolk, Va. LB **$3,256,805**. Landships. WAREHOUSES and water, steam and electric distr. systems, ENG 44-110-53-15. FORT EUSTIS, VA. U. S. Eng., Foot of Front St., Norfolk, Va. Bids July 23. CD 6/29.

▲ **Doyle & Russell**, 823 W. 21 St., Norfolk, VA., CA **$3,030,562**. Princess Anne County HIGH SCHOOL and stadium, Thalia, PRINCESS ANNE, VA. Princess Anne Co. School Bd., Princess Anne, Va. Bids July 16. CD 7/21, under LB.

Southeastern Constr. Co., P.O. Box 1517, Charlotte, N. C. CA **$150,000**. PLANT addn. CHARLOTTE, N. C. A. K. Sutton Co., c/o contractor.

▲ **Bruce Bowen Inc.**, Quincy, Fla., LB, **$1,293,271** Attapulgus High SCHOOL and Elementary School No. 1 BAINBRIDGE, GA. Decatur Co. Bd. Educ., Bainbridge, Ga. Bids July 21. CD 6/16.

Peyton Higgison, P.O. Box 402, Mobile, Ala., CA, **$718,460** (1) Chickasaw Junior High SCHOOL:

Stanley W. Newman, P.O. Box 1646, Mobile, Ala., CA, **$573,575** (2) Toulminville Junior High School, MOBILE, ALA. Mobile Co. Bd. Educ., Court House, Mobile, Ala. Bids July 14. CD 7/20, under LB.

MIDDLE WEST

BIDS ASKED—HEAVY CONSTRUCTION

Ill., Chicago—B.A. 8/17—City, City Hall, Central South side sewers, Dobson Ave., 72 to 76 Sts., Greenwood Ave., E. 74 to 76 Sts., $900,000. CD 1/21/53.

BIDS ASKED—BUILDINGS

Ind., Columbus—SCHOOL ADDN.—B.A. 8/14—Bd. School Trustees, High School Bldg., 1 story, bsmnt., balcony irregular, brick, steel, concrete high school gymnasium addn., 25 St. and Maple Ave. $800,000. Plans deposit $50. McGuire & Shook, 1400-01 Fletcher Trust Bldg., Indianapolis, Zone 4, archts. Jno. Rotz Engr. Co., 814 Merchants Bank Bldg., Indianapolis, Zone 4, mech. engr. CD 5/18.

Mich., Coldwater—HOSPITAL—B.A. 8/18—Branch Co. Mrs. Dawn Wilber, secy., Community Hospital, Coldwater, 2 story 50-bed brick, steel, concrete General Medical structure, general hospital. $550,000. Louis C. Kingscott & Assoc., Inc., 411 Monroe St., Kalamazoo, archts. CD 11/24.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ **OHIO**—Ohio turnpike Comn., 139 E. Gay St., Columbus.

R. B. Potashnick, P. O. Box 205, Cape Girardeau, Mo. CA **$7,522,678**, Contrs. C-11 and C-12, bridge and road 9.5 mi. Portage Co. Bids July 22. CD 7/24 under LB.

H. D. Tousley Co., 925 E. St. Clair St., Indianapolis, Ind., CA, **$500,000**, replacing Grandstand INDIANAPOLIS, IND. Indianapolis Motor Speedway, 729 N. Capitol St., Indianapolis, Ind.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **Clemmer Constr. Co.**, 134 E. Thornton St., Akron, O., CA **$1,417,573**, general const. Buchtel HIGH SCHOOL, AKRON, O. Bd. Educ., 70 N Broadway, Akron, O. Bids July 8. CD 7/21 under LB.

W. & B. Constr. Co., 2154 E. 22 St., Cleveland, O. CA **$718,000**. est. $750,000, general constr. CITY HALL, fire and police station bldg., incl. memorial center at Hilliard and Wagar Rds., ROCKY RIVER, O. City, City Hall, 19120 Detroit Rd., Rocky River, O. Bids June 26. Awarded July 22. CD 7/8 under LB.

▲ † **James Leck Co.**, 211 S. 11 St., Minneapolis, Minn. and **Steenberg Constr. Co.**, 1371 Marshall Ave., St. Paul, Minn., CA **$3,569,000**, technical services bldg. and gas manifold bldg. for GASEOUS DIFFUSION PLANT, (Subcontractors under Peter Kiewit Sons, Co. P. O. Box 268, Portsmouth, O.) for Atomic Energy Comn., 1901 Constitution Ave. N. W., Wash. 25, D. C. PIKETON and WAKEFIELD, O. CD 8/13 under CA.

▲ **O. M. Thomas**, 2130 W. Ridge Rd., Gary, Ind. Owner Builds. **$1,000,000**. 90 HOMES, along Hy. 6, HOBART, IND. Douglas Haley, 4345 Jackson St., Gary, Ind., archt.

H. D. Tousley Co., 925 E. St. Clair St., Indianapolis, Ind., CA, **$480,000**. SUPERMARKET, INDIANAPOLIS, IND. Goodwin Westfall Co., 3101 Northeastern St., Indianapolis, Ind.

▲ **Fruin-Colnon Contg. Co.**, 1706 Olive St., St. Louis 3, Mo., CA, **$5,000,000**. automobile frame mfg. PLANT, 8-acre tract on U. S. 67 near city limits, GRANITE CITY, ILL. A. O. Smith Corp., 3533 N. 27 St., Milwaukee, Wis. CD 7/20.

PROJECTS COVERED

◆

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterways $34,000; other public works $60,000; industrial buildings $82,000; other buildings $300,000.

Classes of Construction

(Name in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings
Unclassified

Stages Reported

PROPOSED WORK: Including appointment of engineers or architects.

BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects invloved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Symbols and Abbreviations Include:

†	Federal Government
▲	Project of $1,000,000 or over.
B.A.	Bids Asked
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily

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- **Non-extruding, Resilient**

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J. H. Baxter & Co. of Oregon, Eugene, Oregon
Baxco Corporation, Portland, Oregon

▲ **Kroening Engrg. Corp.,** 4500 W. Mitchell St., Milwaukee, Wis., LB, **$1,789,355,** excav., mason, carp., Northwest Senior High SCHOOL, MILWAUKEE, WIS. Bd. School Directors, IIII N. 10 St., Milwaukee, Wis. Bids July 20. CD 6/5.

WEST OF MISSISSIPPI

BIDS ASKED—BUILDINGS

▲ **Tex., Austin**—HOSPITAL—B.A. 9/1—St. Davids Community Hospital, c/o Robert L. Lloyd, Administrator, 606 W. 17 St., 3-story part bsmnt., 65,000 sq. ft. 100-bed hospital, **$1,360,000.** Page, Southerland & Page, 602 West Ave., archts. Wm R. O'Connell, 305 Perry-Brooks Bldg., consult. archt. CD 4/7.

BUILDINGS

LOW BIDS AND CONTRACTS

M. E. Souther Constr. Co., 1533 Como Ave., St. Paul, Minn., CA Approx. **$750,000.** 2-story 200x305 ft. freight car SHOPS with 54 x 110 ft. addn. at Waite Park, ST. CLOUD, MINN. Great Northern Ry., H. J. Seyton, Ch. Eng., 175 E. 4 St., St. Paul, Minn.

G. I. Johnson & Son Co., 5235 31st Ave. S., Minneapolis, Minn. CA. **$568,145,** general constr. SCHOOL ADDNS. and bus garage, MINNESOTA LAKE, MINN. Bd. Educ., G. Bach, clk., Minnesota Lake, Minn. Bids July 7. CD 6/10.

Lovering Constr. Co., Guardian Bldg., St. Paul, Minn. CA **$700,000,** general constr. 1 story 242x247 ft no bsmnt. FACTORY, Abell St., North of Maryland Ave. ST. PAUL, MINN. Minnesota Plastics Corp., 366 Wacouta St., St. Paul, Minn. F. Clark, 220 Endicott Bldg., St. Paul, Minn., archt. Bids June 19.

Dahlquist, Inc., Mora, Minn., LB **$509 875.** general constr. HOSPITAL addn., THIEF RIVER FALLS, MINN. Northwestern Hospital Assn., N. P. Peterson, secy., Thief River Falls, Minn. Bids July 16. CD 6/24.

Lincoln University, Jefferson City, Mo. rejected bids July 9, 2-story and ground floor 100x130 ft. and 52-99 ft. brick, cut stone, hollow tile and steel AUDITORIUM-ARTS BLDG., LB **$943,000.** JEFFERSON CITY, MO. CD 7/24 under LB.

FAR WEST

BIDS ASKED—HEAVY CONSTRUCTION

▲ **Ore., McNary**—B.A. 8/25—Umatilla Co., Court House, Pendleton, two 600-ft. spans highway bridge across Columbia River. $4,132,000. Tudor Engrg. Co., 74 N. Montgomery St., San Francisco, Calif., engrs. CD 11/7/52.

▲† **Oregon**—B.A. 9/9—U. S. Eng., Pittock Block, Portland, intake structures and gate structures, The Dalles Dam, Wasco Co. Civeng-35-026-54-5. $5,000,000.

BIDS ASKED—BUILDINGS

Calif., Santa Ana—HEALTH—B.A. 8/25—Orange County, Court House, 3 and part 4 story Type 1 37,000 sq. ft., health bldg., $850,000. Wildman & Faulkner, Spurgeon Bldg., Santa Ana, archts.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ † **Campbell Constr. Co.,** 1150 Folsom St., San Francisco, Calif., CA **$2,989,634,** est. $2,701,699 10 structural steel multi-purpose nose docks Fairchild Air Force Base, Inv. 53-198 SPOKANE, WASH. U. S. Eng., 4735 E. Marginal Way, Seattle 4, Wash. Bids July 8. CD 7/14.

† **OREGON**—Bureau P. Rds., Dpt. Commerce, Morgan Bldg., Portland,

G. D. Dennis & Sons 7355 S. E. Johnson Creek Blvd., Portland, Ore. and **G. D. Rennells Constr. Co.,** Tillamook, Ore., LB **$809,953.** 14.463 mi. West Fork Sect., Smith River Rd. Lane Co. Bids July 21. CD 7/7.

† **Western Electrical Constr.** 1233 N. W. Lovejoy St., Portland, Ore., LB **$164,682.** mechanical and electrical equip. Big Cliff powerhouse, Marion Co. Civeng-35-026-53-135. OREGON, U. S. Eng., Pittock Block, Portland, Ore. Bids July 21. CD 7/7.

† **Hallett Constr. Co. and Continental Co.,** 54 Beverly Pl., Dayton, O. CA **$544,401,** 73 mi. Maupin-Detroit 300-kv line, No. 2, Inv. 7047, Wasco and Marion Counties. OREGON. Bonneville Power Admin., 827 N. E. Oregon St., Portland, Ore. Bids June 10. CD 5/27.

† **Morrison-Knudsen Co. Inc.,** 319 Broadway, Boise, Idaho, CA **$880,108,** Frog Lake forebay proj., Clackamas River, earth-fill Dam, Clackamas Co. OREGON. Portland General Electric Co., 621 S. W. Alder St., Portland, Ore. Bids Apr. 27, awarded July 10. CD 5/13, under LB.

P. S. Lord, 4507 S. E. Milwaukee St., Portland, Ore. CA **$983,849.** 13,534 lin. ft. 3x5 ft., 2,024 lin. ft. 36-in. West Central unit interceptor sewer. PORTLAND, ORE. City, City Hall, Portland, Ore. Bids June 2, awarded June 17. CD 6/9, under LB.

CALIFORNIA—State Div. Hys., P. Wks. Bldg., Sacramento,

Erickson, Phillips & Weisberg, 350 Market St., Concord, Calif., CA **$850,063,** rein.-con. girder bridge across Petaluma Creek, near Petaluma, Sonoma Co. Bids July 1. Awarded July 20. CD 7/13 under LB.

▲ **CALIFORNIA**—State Div. Hys., P. Wks. Bldg., Sacramento,

Lord & Bishop and M. J. B. Const. Co., 322 Elks Bldg., Stockton, Calif., CA **$1,081,046,** grade, surf, overcrossings, 4.3 mi. between Ripon and Austen Rd., San Joaquin Co. Bids July 1. Awarded July 20. CD 7/13 under LB.

Peter Kiewit Sons' Co., 345 Kieways, Arcadia, Calif., and **Fred J. Early Jr. Co. Inc.**, 22124 S. Vermont Ave., Torrance, Calif., CA, **$554,945** furnishing, installing blower unit power and blower bldg. at Hyperion Treatment plant, El Segundo, LOS ANGELES, CALIF. City, City Hall, Los Angeles, Calif. Bids July 1, awarded July 20.

▲ **South Laguna Sanitary District**, 31652 2 Ave., South Laguna, Calif., rejected bids July 16, sewage collection and disposal system. SOUTH LAGUNA, CALIF. CD 6/23.

BUILDINGS

LOW BIDS AND CONTRACTS

Puget Sound Power & Light Co., Skinner Bldg., Seattle 1, Wash. Day Labor. est. **$825,000.** 110,000 volt SUBSTATION addn. with new bank of 40,000 kva transformers increasing capt. to 80,000 kva, BELLINGHAM, WASH. CD 4/28/52.

▲ **J. A. Semke**, 6856 43 Ave. N. E., Seattle, Wash., Day Labor, **$1,600,000,** 158 frame HOUSES, FERNDALE, WASH.

M. P. Butler Co., 3419 13 Ave. S. W., Seattle, Wash., CA, **$542,713** sand and gravel PLANT, STEILACOOM, WASH. Glacier Sand & Gravel Co., 5975 E. Marginal Way, Seattle, Wash. CD 5/18, under LB.

Teller Constr. Co., 845 N. Graham St., Portland, Ore. CA **$660,250,** Benson HIGH SCHOOL addn., PORTLAND, ORE. School Dist. No. 1, 631 N. E. Clackamas St., Portland, Ore. Bids June 29, awarded July 10. CD 7/7 under LB.

▲ **Shaw Constr. Co.**, 8635½ Firestone Blvd., Downey, Calif., CA, **$1,112,400,** 150 stucco DWELLINGS On Alicante, Bora, De Alcala, Estero and Mansa Sts., BELLEFLOWER, CALIF. Aral Co. Inc. 8635½ Firestone Blvd., Downey, Calif.

O. L. Carpenter, 805 Imperial Ave., Lemon Grove, Calif., CA, **$514,460,** 5 frame, stucco Pendleton Elementary SCHOOL buildings, CAMP PENDLETON, CALIF. Housing & Home Finance Agency, 112 W. 9 St., Los Angeles, Calif. Bids July 14, awarded July 20.

Joseph G. Klapper, 1129 S. Fair Oak Ave., Pasadena, Calif., CA, **$485,900,** Hamilton, Kingsley and Arroyo Ave. SCHOOLS ADDNS., POMONA, CALIF. City, Bd. Educ., 605 N. Park Ave., Pomona, Calif. Awarded July 16.

▲ **H. H. Johnson Inc.**, 770 G Ave., Chula Vista, Calif., CA, **$2,155,000** 158 stucco DWELLINGS in Glencliff Subdivision, SAN DIEGO, CALIF. Hobart Investment Co., Box 111 Chula Vista, Calif. CD. 4/9/51.

▲ **Roven-Spiegel Co.**, 5658 W. 3 St., Los Angeles, Calif., CA, **$1,205,700,** 119 stucco DWELLINGS on San Fernando, Mission Rd., Ludlow, Chatsworth Sts., SAN FERNANDO, CALIF. Sepulveda Gardens, Inc., 5658 W. 3 St., Los Angeles, Calif.

ALASKA

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲† **Morrison-Knudsen Co. Inc.**, 319 Broadway, Boise, Idaho, LB **$4,525,823.** est. $4,968,796, hardstands, taxiways and hydrant refueling facilities, Eielson Air Force Base. Inv. 53-75. ALASKA. U. S. Eng., Anchorage, Alaska. Bids July 21.

CANADA

BIDS ASKED—BUILDINGS

▲ Ont., Toronto—OFFICE—B.A. 8/25—University-Richmond Realty Corp., c/o M. H. Lipton, 215 Victoria St., 10 story, bsmt., 50x106 ft., office, rein.-con. fdn., Richmond St. at University Ave., $2,500,000, Kaplan & Sprachman, 46 Yorkville St., Toronto, archts. CD 2/13/53.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ **Bennett & White of Edmonton Ltd.**, 11239 83 St., Edmonton, Alta. CA **$3,195,000.** three 160 ft. span hangars for Royal Canadian Air Force Base, COLD LAKE, ALTA. Defense Constr. Ltd., 56 Lyon St., Ottawa, Ont. Bids June 24, awarded July 20. CD 7/27, under LB.

BUILDINGS

LOW BIDS AND CONTRACTS

J. A. Pollard Constr. Co., 2610 Rock Bay, Victoria, B. C., CA, **$785,632,** electrical WORKSHOP. R. C. N. Dockyard, ESQUIMALT, B. C. Defence Constr. Ltd., 360 Homer St., Vancouver, B. C. Bids Mar. 10. CD 2/11.

▲ **Smith Bros. & Wilson Ltd.**, 1267 Richards St., Vancouver, B. C. LB **$1,684,494.** Vancouver Technical SCHOOL addn., alterations to girls' school, main bldg. and shops, VANCOUVER, B. C. Vancouver School Bd., 1595 W. 10 Ave., Vanconver, B. C. Bids July 9. CD 6/18.

▲ **Soules Constr. Ltd.**, 880 Bay St., Toronto, Ont., CA, **$4,140,000.** Nurses RESIDENCE and training SCHOOL addns. to hospital, TORONTO, ONT. Women's College Hospital, 76 Grenville St. Toronto, Ont. Bids July 6, awarded July 21. CD 6/24.

Rudolph Artinger, 492 Brookdale Ave., Toronto, Ont., Owner Builds, **$800,000.** APARTMENT BLOCK on Ridley Blvd. and Avenue Road, (North York), TORONTO, ONT.

▲ **Shell Constr. Co.**, 380 St. Patrick St., Montreal, Que., Owner Builds, **$2,048,000,** 256 ranch-type HOUSES, ST. GENEVIEVE, QUE.

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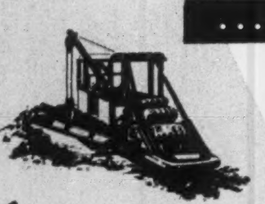

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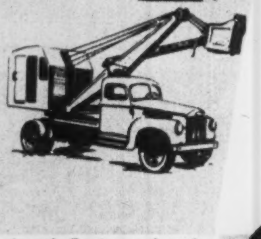

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Proposed Projects

WATER SUPPLY

Calif., Placerville—City, City Hall voted **$295,000** water sys. imprvs. CD 4/16.

Kan., Walnut—City, $109,000 bond election July 28, WW sys. **$109,000.** F. E. Devlin, 4005 E. Kellogg St., Wichita, consult. engr.

Mo., Hamilton—City, voted $135,000 bonds July 7, water supply imprvs. **$135,000.**

Mo., Mt. Vernon—City, voted $130,000 bonds July 7, water and sewage imprvs. **$130,000.**

Mo., Webster Groves (St. Louis 19 P. O.)—City, John H. Cassidy, mayor, City Hall, 4 E. Lockwood Ave., extens. and imprvs. to WW and distr. sys. etc. **$300,000.** Horner & Shifrin, Shell Bldg., 1221 Locust St., St. Louis, Zone 3, consult. engrs.

Neb., Lincoln—City, City Hall, expand water distr. sys. east of A Street Pumping Plant, **$200,000-$250,000;** mains and other water sys. imprvs. at Municipal Airport, **$102,000.** D. L. Erickson, c/o owner, city engr. CD 5/12.

N. C., Asheboro—City, water plant addns. **$100,000.** Piatt & Davis, Durham, consult. engrs.

N. C., Four Oaks—Town, WW sys. **$125,000.**

O., Portsmouth—City, rehabilitation of Sunnyside Reservoir, principal supply source for Portsmouth WW. **$250,000.** Alfred LeFeber & Assoc., 2933 Woodburn St., Cincinnati, consult. engrs.

O., South Point—Village, South Point, WW plant expansion and new sewerage sys. **$400,000.** M. O. Sherrill & Assoc., Baxter Ave., Box 96, Louisville 4, Ky., consult. engrs.

▲ **Okla., McAlester**—City, bond election August 3, water extens. **$1,000,000.** W. R. Holway, 302 E. 18 St., Tulsa, consult. engr. CD 4/22/52.

▲ **Tenn., Cleveland**—City, water supply imprvs. **$1,107,600.** Wiedeman & Singleton, P. O. Box 1878, Atlanta, Ga., consult. engrs.

Tenn., Tracy City—Town, WW sys. **$195,000.**

Tex., Blackwell—Blackwell Fresh Water Dist., c/o Nola County Comrs. Court, Sweetwater, (a) water pumping unit, **$45,000;** (b) water mains, **$60,000;** (c) water distr. sys., **$50,000;** (e) elevated steel water storage, **$35,000.**

Tex., Fruitdale—City, voted bonds July 11, water lines, **$50,000;** water supply, **$35,000;** water storage, **$35,000.** Paul G. Bentley Co., 1100 S. Ervay St., Dallas, consult. engrs. CD 5/15.

Tex., Velasco—City, water supply, **$40,000;** elevated steel water storage, **$60,000.** Freese, Nichols & Turner, 2111 C & I Bldg., Houston, consult. engrs. CD 4/3.

Va., Amherst—Amherst County Bd. Suprvs., Amherst, voted **$560,000** bond election, water supply sys. in Elon Magisterial Dist.

▲ **Ont., London**—Utilities Comn., V. A. McKillop, mgr. constr. of filtration at Fanshawe Lake north of here **$1,000,000.** CD 6/12/52.

Ont. Sudbury—City, 16-in. watermains Elgin St. Shaughennesy to Elm Sts., **$108,600.** R. H. Martindale, supt.

SEWERS, WASTE DISPOSAL

Calif., Bakersfield—Kern Co., 1100 26 St., Bakersfield, **$911,000** bond election Ridgecrest Sanitation Project. R. E. White, 1716 Oak St., Bakersfield, consult engr.

▲ **Colo., Pueblo**—City, City Bldg., storm sewer proj. **$1,500,000.** Glenn S. Turner, c/o owner, city engr.

Conn., New Britain—City, Vincent Kotowski, Chn., Incinerator Comn., 118 Farmington Ave., incinerator plant, Berlin Site. **$680,000.** Hurley, Capacefalo & Assocs., 46 Elm St., Winsted, consult. engrs.

Ind., Shelbyville—City, City Hall, extending sewer lines and sewage plant addn., **$750,000.** CD 11/20/44.

Ky., Florence—City, City Bldg., sewage disposal plant at Bullock Pen Creek, east of here. **$500,000.** O. G. Loomis & Assoc., 411 Scott St., Covington, consult. engrs. CD 1/28/49.

▲ **Mich., Jackson**—City, City Comn., City Hall, bond election September 15, sewer constr. **$2,750,000.** CD 11/16/44.

Mich., Lake Odessa—City, city clk., Lake Odessa, sewage disposal plant with treatment facilities. **$150,000.** Francis Engrg. Co., Eddy Bldg., Saginaw, consult. engrs.

Minn., Hopkins—City, W. Taylor, mgr., bond election July 28, storm sewers, 3 major sewers extens. to existing lines. **$200,000.** F. Laska, city engr. CD 12/10/52.

▲ **Neb., Omaha**—City, City Hall, 18 and Farnam Sts., incinerator. **$1,000,000.** E. W. Woodbridge, city engr. R. F. Ferguson, WOW Bldg., consult. engr. CD 10/28/52.

N. C., Four Oaks—Town, sanitary sewers. **$150,000.**

▲ **O., Columbus**—Columbus Regional Planning Comn., has received a report from Burgess & Niple, 584 E. Broad St., and Jennings-Lawrence Co., 12 N. St., consult. engrs. The report recommended a County-wide District and the constr. of 7 trunk line sewers and 3 sewage disposal plants over a 25-year period. **$47,743,000.**

O., Columbus—City, City Hall, 7,000 ft. 72 in. storm sewer between Mound St. near Red Bird Stadium and Jackson Pike. **$660,000.** CD 11/19/45.

Pa., Abington—Abington Twp. Comn., Abington, incinerator plant, **$500,000.** Albright & Friel, Inc., 121 S. Broad St., Phila., archts.

▲ **S. C., Greenville**—City, voted bonds July 14, sanitary sewer imprvs. **$1,250,000.** CD 2/8/51.

Tex., Jacinto City—Town, voted bonds June 27, drainage, open ditches and pipe. **$135,000.** CD 6/19.

Tex., Orange—Goodrich Gulf Chemicals, Inc., Orange, storm sewers, **$65,000;** sanitary sewerage sys, **$68,000,** 701-acre tract.

Tex., Velasco—City, sanitary sewerage sys. rehabilitation and line to Industrial Dist., **$60,000;** sanitary sewer disposal unit, **$75,000.** Freese, Nichols & Turner, 2111 C & I Bldg., Houston, consult. engrs. CD 4/3.

▲ **Tex., San Antonio**—City, Reynolds Andricke, mgr., City Hall, Military Plaza, bond election August 18, main sewerline and laterals from Alazan-Elmendorf areas to Kampmann Blvd. **$1,585,323;** sanitary sewer line and lift station between Military Dr. and White Rd. **$200,000;** pressure sewer main for Brooks Air Force Base area, **$100,000.** T. Coghill, city engr. CD 9/19.

W. Va., Point Pleasant—City, sewage disposal plant. **$600,000.**

Wis., Pleasant Prairie—Town of Pleasant Prairie, R. 1, Box 897, Kenosha, sanitary sewer system. **$150,000.** Consoer, Townsend & Assocs., 351 E. Ohio Ave., Chicago, Ill., consult. engrs.

BRIDGES

▲ **Wash., Bremerton**—City, City Hall, bridge across Port Washington Narrows at Warren Ave. **$1,000,000.** Tudor Engrg. Co., 74 N. Montgomery St., San Francisco, Calif., consult. engrs.

STREETS AND ROADS

▲ **ARKANSAS**—State Hy. Comn., Little Rock,

Ashley Co.—14.8 mi. Hy. 82, Crossett to Hamburg **$272,000.**

Calhoun and Dallas Counties—8 mi. Hys. 69 and 167 Thornton to Fordyce, **$300,000.**

Conway Co.—8.5 mi. Hy. 64 Morrilton to Pope Co. line, **$400,000.**

Fulton and Sharp Counties—8.7 mi. Hy. 63 Hardy-north, **$523,000.**

Hot Springs Co.—11 mi. Hy. 67 Hy. 7 to Donaldson, **$500,000.**

Jackson Co.—7.8 mi. Hy. 67, Olyhot to Hy. 14, **$400,000.**

Jefferson Co.—6.4 mi. Hy. 79, Pine Bluff south, **$146,000.**

Lawrence Co.—8.3 mi. Hy. 25 Walnut Ridge to Green Co. line, **$290,000.**

Lonoke and White Counties—10 mi. section of Hy. 67 from Pulaski Co. line to McRae, **$300,000.**

Monroe and St. Francisco Counties—10.6 mi. section Hy. 7 west of Brinkley to E. of Palestine, **$500,000.**

Nevada Co.—8 mi. Hy. 67 Prescott to Little Missouri River, **$350,000.**

Pulaski Co.—14 block drive and bridge ramps from Cumberland St. to bridge near Mo-Pac. Hosp. 4 lanes, Little Rock, **$3,000,000.**

Hy. 67 and 67 W.N.E. from N. Little Rock to County line, **$500,000.** CD 5/1/52 .

Ga., Cedartown—Polk Co. Comrs., Cedartown, paving 100 miles county roads, **$500,000.**

O., Columbus—City, City Hall, and Franklin Co. Comrs., Court House, widening and reconstr. Livingston Ave. from College Ave. to James Rd. **$288,132.** Jennings-Lawrence Co., 1392 King Ave., consult. engrs.

▲ **Tex., San Antonio**—City, City Hall, Military Plaza, **$1,250,000** bond election August 18, residential street paving, throughout city, **$2,500,000;** general street drainage, various residential areas, **$100,000;** permanent type paving for an interior loop around downtown area, **$750,000.** T. Coghill, city engr. CD 9/19/52.

Wash., Seattle—City, County—City Bldg., Seattle, Zone 4 paving Bennett and W. Bennett Sts., **$348,868.** W. E. Parker, city engr.

QUEBEC—Province of Quebec, Dpt. P. Wks., Quebec City, extension of Senneterre-Opemiska Road from Roselake to Bachelor Lake in Abitibi District. **$800,000.** CD 1/12/48.

EARTHWORK, WATERWAYS

▲ **California**—Central California Irrigation Dist., Los Banos, **$4,200,000** bond election Aug. 25, enlarging canal system.

▲ **California**—Pacific Gas & Electric Co., 245 Market St., San Francisco, constr. Pit River No. 7 project, involving concrete gravity type dam, penstocks, powerhouse on Pit River, Shasta Co., **$16,250,000.** CD 4/29/52.

Calif., Paradise—Paradise Irrigation Dist., Paradise **$400,000** bond election Aug. 18, 42 in. pipe line between Magalia Reservoir and forebay.

Neb., Lincoln—Lancaster County Sanitary Dist. No. 1, court House, imprv. lower reaches of Antelope Creek, from Vine St. to Salt Creek, being channel enlargement, deepening and lining with concrete reconstruct or alteration of six railroad structures and six street structures. **$333,000.** W. B. Coale, c/o owner, engr. CD 4/23/52.

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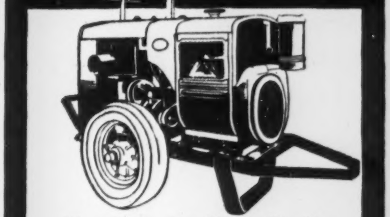

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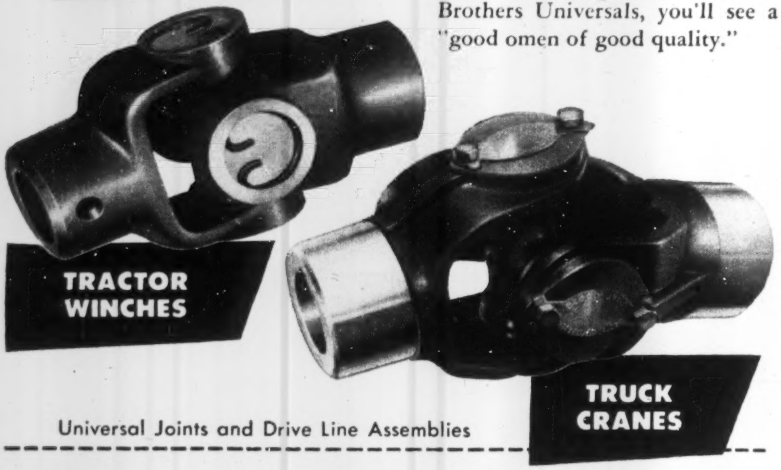

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New Jersey—**N. J. Dpt. of Conservation & Economic Development, 1060 Broad St., Newark, yacht basin headquarters bldg. and parking area, Atlantic City,** Atlantic Co., **$100,000.**

▲ † **Texas**—International Boundary & Water Comn., 1st Natl. Bank Bldg., El Paso, 2nd International Dam, to hold 2,000,000 acre ft. water, near Del Rio, 5 mi. north off Rio Grande River. **$15,000,000.** CD 1/6/49, under Tex., Roma.

▲ **Tex., San Antonio**—City, City Hall, Military Plaza, bond election August 18, flood control work on San Antonio River, tributaries and small creeks. **$1,000,000; T. Coghill,** city engr. CD 12/20/51.

AIRPORTS

Tex., San Antonio—AIRPORT—City, City Hall, Military Plaza, bond election August 18, Alamo Municipal Airport imprvs. and addns. **$400,000.** T. Coghill, c/o owner, city engr. CD 9/9/52.

▲ **Ont., Toronto**—AIRPORT—Dpt. Transport, Hunter Bldg., Ottawa, extens. of Toronto Island Airport, with 5,000 ft. runway into Lake Ontario, enlargement of hangar space. **$1,250,000.**

▲ **Que., Dorval**—TERMINAL BLDG.—Dpt. of Transport, Dom. Govt., Ottawa, Ont., terminal bldg. at airport. **$4,000,000. John** Baldwin, chn. Air Transport **Board.**

PUBLIC BUILDINGS

Ala., Birmingham—SCHOOLS—City Bd. Educ., City Hall, plans by Warren, Knight & Davis, Protective Life Bldg., Birmingham, (1) East Lake High School $500,000; (2) East Lake Elementary School **$350,000.** CD 8/25/44.

Ark., Paragould—COURT HOUSE—Green Co. plans by Elmer A. Stuck & Assocs., 217 E. Washington Ave., Jonesboro, court house, **$400,000.** CD 6/15/44.

Colo., Boulder—MUSIC—University of Colorado Campus, Boulder, plans by Trautwein & Howard, 1411 Walnut St., Phila., Pa., consult. engrs. and archts., music bldg., **$465,000.** CD 5/23/47.

▲ **Colo., Grand Junction**—HIGH SCHOOL—School Dist. 51, Mesa Co., Grand Junction, 1- and 2-story high school campus type plan, auditorium and gymnasium **$2,000,000.** Atchison & Kloverstrom, 1254 Monaco Parkway, Denver, consult. engrs., archts. CD 8/22/52

Conn., Milford—SCHOOLS—Town Bd. of Educ., Town Hall, plans by Jesse James Hamblin, 1188 Main St., Bridgeport, Elementary School No. 1, Bryan Hill Area, **$500,000;** Elementary School No. 2, **$500,000;** Elementary School No. 3, **$500,000.**

Conn., New Milford—SCHOOL—Town Bd. Educ., Town Hall, plans by Carl J. Malmfeldt Assoc., 36 Pearl St., Hartford, 1 story, 46,000 sq. ft., brick, steel, concrete elementary school. **$860,000.** CD 2/12/51.

▲ **Conn., Plainville**—SCHOOL, etc.—Town. Walter J. Hiltpold, chn. Bldg. Comn., Plainville, high school and swimming pool. **$2,500,000.**

Fla., Gainesville—AGRICULTURE, etc.—Florida State Bd. Control, Education Bldg., Florida State University, Tallahassee, agriculture bldg. **$750,000;** animal laboratory **$500,000,** foregoing at University of Florida.

▲ **Fla., Tallahassee**—AGRICULTURE, etc.—Florida Bd. Control, Education Bldg., Florida State University, agriculture bldg., **$500,000;** home economics bldg., **$500,000;** R.O.T.C. bldg., **$300,000;** classroom bldg., **$750,000,** all foregoing Florida A & M College for Negroes.

▲ **Fla., Tallahassee**—CLASSROOM, etc.—Florida State Bd. Control, Education Bldg., Florida State University, classroom bldg., **$500,000;** home economics bldg., **$750,000;** library **$750,000,** all foregoing at Florida State University.

▲ **Ind., Gary**—SCHOOL—Ross Twp. School Bd., 1650 W. 61 St., Gary, plans by Turner & Turner, 5945 Hohman Ave., Hammond, high school and gymnasium. **$1,000,000.**

Ind., Peru—SCHOOL—School City of Peru, school in Oakdale, **$375,000.** Brown & Co., Peru, consult. engrs.

Ind., Salem—SCHOOL—Salem-Washington Twp. School System, school, **$350,000.**

Ind., Rochester—SCHOOL—Bd. of School Trustees, High School Bldg., Rochester, plans by L. Crosby Bernard, 7241 Forest Ave., Hammond, brick high school, **$365,000.**

▲ **Kan., Dodge City**—HIGH SCHOOL—School Dist. 1, Dodge City, plans by Mann & Co., Hutchinson, new Senior High School **$1,781,000;** remodel present high school to a junior high school. **$475,000.**

Md., Sabillasville—DINING HALL, etc.—State of Md., Dpt. P. Imprvs., 506 Park Ave., Baltimore Zone 1, plans by Buckler, Fenhagen, Myer & Ayres, Federal Land Bank Bldg., Baltimore, dining hall and kitchen, Victor Cullen Hospital. **$300,000.** CD 12/12/50.

Mass., Braintree—SCHOOL—Town, R. W. Proctor, supt. Schools, 10 Tremont St., plans by James H. Ritchie & Assoc., 135 Clarendon St., Boston, elementary school, Perkins School Annex. **$300,000.**

Mass., Weymouth—SCHOOL—Town, E. S. Mapes, supt. Schools, 89 Middle St., plans by Coletti Bros., 687 Boylston St., Boston, Mass. elementary school, Academy Ave. **$500,000.** CD 6/2.

Mass., Tynsboro—SCHOOL Town —Elliott Diggle, Supt. Schools, Tynsboro, plans by George H. Sidebottom, 200 Haven St., Reading, elementary school, **$315,000.**

Mich., Bay City—ELECTRIC SUBSTATIONS—City, Water & Light Comm., Bay City, two concrete, steel, electric power substations, **$125,000.** Ayres, Lewis, Norris & May, 500 Wolverine Bldg., Ann Arbor, consult. engrs. CD 5/9/52.

▲† **Mich., Grand Rapids**—POST OFFICE—General Services Admin., General Services Bldg., Wash. 25, D. C., brick, stone post office bldg. **$1,250,000.**

Mich., Grand Rapids—SERVICE BLDG.—City, Millard M. Moore, Actg. City Mgr., Grand Rapids, plans by Chris Steketee, 504 Murray Bldg., brick, concrete Public Schools Service Structure, **$350,000.** CD 8/2/51.

Miss., Clarksdale—COURT HOUSE—Coahoma Co. Bd. Suprvs., Clarksdale, plans by Hanker & Heyer, Commercial Title Bldg., Memphis, Tenn. court house, **$750,000.** CD 8/22/52.

▲ **Mo., Marshall**—PATIENTS—Dpt. P. Health & Welfare, Jefferson City, constr. addn. to house 500 addnl. patients for Missouri State School for Feeble Minded and Epileptics. **$1,000,000.**

Mo., St. Louis Co.—THERAPY—St. Louis Training School for Feeble Minded, c/o Dir. Dpt. P. Health & Welfare, Jefferson City, brick, concrete, steel therapy bldg. on school grounds on Bellefontaine and Hall Rds. **$750,000.**

Mo., Washington—HIGH SCHOOL—Bd. Educ., c/o Supt. Schools, Washington, plans by Froese, Maack & Becker, 705 Olive St., St. Louis Zone 1, 1 story brick, concrete, steel, masonry high school. **$500,000.** Francis J. Goodrich, Washington, assoc. archt. CD 6/29.

▲ **N. Y., New York**—SCHOOL—Bd. Educ., 49 Flatbush Ave. Exten. Brooklyn Zone 2, plans by Harrison & Abramovitz, 45 Rockefeller Plaza, P.S. 198 elementary-junior high school, 1 and 2 story with outdoor covered playground, Avenue D, East 11 and Drydock Sts. **$1,800,000.**

▲ **N. C., Gastonia**—SCHOOLS—Gaston Co. Bd. Educ., Gastonia, plans by Charles W. Connelly, P. O. Box 4111, Charlotte, Negro Senior High School. **$600,000;** Negro Elementary-Junior High School. **$400,000.** CD 6/30.

O., Fairborn—FIELDHOUSE, STADIUM—Bd. Educ., H. K. Baker, supt. schools, Fairborn, bond election November 3, fieldhouse and stadium at new school, **$450,000.** Walker, Norwick & Assoc., 12 W. Monument St., Dayton, archts. CD 2/19/52.

▲ **O., Mansfield**—SCHOOL—Bd. Educ., Mansfield, bond election November 3, school imprvt. program. **$4,400,000.** CD 5/12.

▲ **Pa., Phila.**—MUNICIPAL—Dpt. Procurement, City Hall Annex, 20 story, masonry Reyburn Plaza Municipal Bldg. **$8,000,000.**

▲ **S. C., Anderson**—HOSPITAL—Anderson Co., Anderson, hospital addn. **$1,000,000.**

Tenn., Murfreesboro—PLANTS—City, City Hall, bond election August 11, 2 mfg. plants. **$500,000.**

Tex., Amarillo—SCHOOL—Amarillo Independent School Dist., Amarillo, plans by Harold Walsh, Paramount Bldg., 1 and 2 story brick, masonry N.E. Elementary School, concrete pier and beam fdn., heating and ventilating systems. **$400,000.** Wallace Hazelwood, Paramount Bldg., consult. engr. CD 12/22/52.

Tex., Gladewater—SCHOOLS—Gladewater Independent School Dist., Gladewater, voted bonds June 27, elementary school, **$300,000;** Junior-Senior High School, **$325,000;** Negro elementary school, **$300,000.** Preston M. Geren, Fort Worth Natl. Bank Bldg., Fort Worth, archt. CD 6/18.

Tex., Hempstead—COURT HOUSE—Waller Co., Hempstead, bond election August 8, 3-story 62x128 ft. courthouse, 2-story jail, brick and masonry type. **$625,000.** Herbert Voelcker & Assoc., 1202 Dennis St., Houston, archts. CD 7/17.

▲ **Tex., Lufkin**—HIGH SCHOOL—Lufkin Independent School Dist., Lufkin, plans by Wilbur Kent, 404 Perry Bldg., 105,000 sq. ft. Senior High School. **$1,100,000.** CD 11/21.

Tex., San Antonio—HEALTH CENTER—City, City Hall, Military Plaza, bond election August 18, main public health center, Live Oak St. **$900,000.** T. Coghill, city engr. CD 5/19/52.

▲ **Va., Ashland**—SCHOOLS—Hanover Co. School Bd., Ashland, voted $1,000,000 bonds July 14, constr. 3 new schools and addns., renovations to 3 schools, Hanover. **$1,526,000.** J. Henley Walker, Jr., Law Bldg., Richmond, archts. CD 9/23.

Va., Williamsburg—HIGH SCHOOL—James City County School Bd., Williamsburg, plans by Williams, Coile & Blanchard, 3415 Virginia Ave., Newport News, 1-story masonry James City High School. **$480,000.** CD 6/29.

▲† **Wash., Bremerton**—SHOP—Bureau Yards & Docks Annex Navy Dpt., Arlington, Va., plans by J. W. Maloney, Central Bldg., Seattle, Zone 4, 260,000 sq. ft. electronics and electric shop bldg., at Puget Sound Naval Shipyard, **$6,000,000.** CD 6/12.

W. Va., Huntington—DORMITORY—W. Va. Bd. Educ., Capitol Bldg., Charleston, plans by C. E. Silling & Asocs., Masonic Temple, Charleston, Marshall College Girls Dormitory. **$325,000.**

W. Va., Romney—DORMITORY, etc.—W. Va. Bd. Educ., Capitol Bldg., Charleston, plans by Alex B. Mahood, Law & Commerce Bldg., Bluefield, W. Va. School Deaf & Blind Combination Dormitory, Classrooms and Hospital. **$400,000.** CD 12/24.

W. Va., Spencer—HOSPITAL—W. Va. Bd. Control, Capitol Bldg., Charleston, plans by W. H. Grant, Jr., 207 Waverly Way, Clarksburg, Spencer State Hospital for Insane renovation and fireproofing existing bldgs. **$600,000.**

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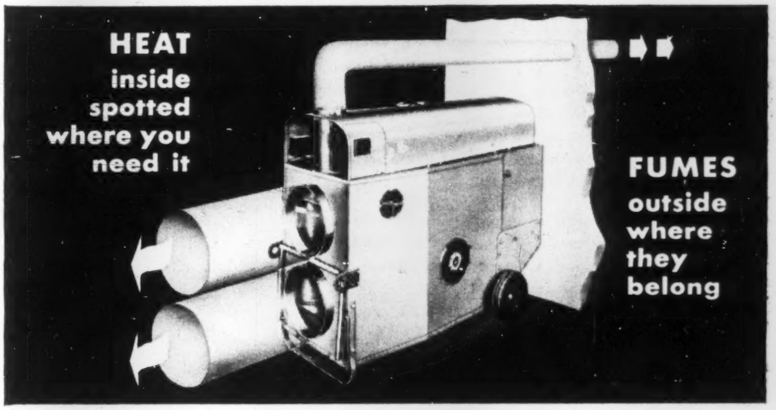

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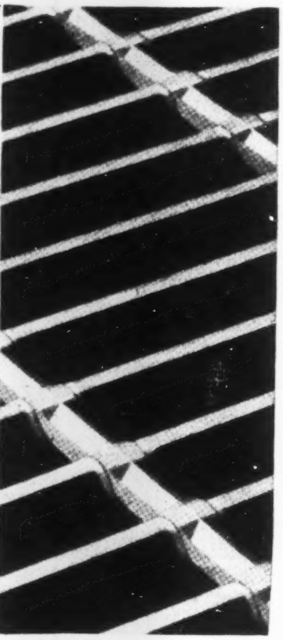

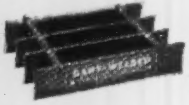

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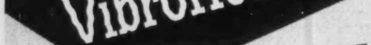

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W. Va., Weston—HOSPITAL—W. Va. Bd. Control, Capitol Bldg., Charleston, plans by Ivan R. Lee, Capitol City Bldg., Charleston, Weston State Hospital for Insane, new dormitory ground floor for inmates, second floor for staff, incl. renovation and fireproofing existing bldgs., **$650,000;** plans by Alex. B. Mahood, Law & Commerce Bldg., Bluefield, 40 or 54x200 ft. dormitory for patients, Weston State Hospital. **$500,000.**

Wis., Lancaster—HOSPITAL—City, plans by Durrant & Berquist, 197 Jones St., Dubuque, Ia., hospital, **$600,000.**

▲ **Wyo., Casper**—HOSPITAL—Natrona Co. Hospital Assoc., Casper, voted bonds July 14, hospital, **$1,000,000.** Fisher & Fisher, Denver Natl. Bldg., Denver, Colo., consult. engrs.-archts. CD 6/29.

COMMERCIAL BUILDINGS

▲ **Calif., San Francisco**—MEMORIAL TEMPLE—Grand Lodge of Masons, 25 Van Ness Ave., grand lodge memorial temple, Calif. and Taylor Sts. **$4,000,000.**

Fla., Miami—STORE—Sears, Roebuck & Co., 675 Ponce de Leon Ave., Atlanta, Ga., plans by Robert Law Weed & Assocs., 550 Brickell Ave., Miami, department store, **$750,000.** CD 7/1.

Ga., Columbus—BANK—Fourth National Bank, Murrah Bldg., bank. **$500,000.**

Md., Baltimore—SCHOOL—Archdiocese of Baltimore, Mulberry and Charles Sts., plans by Edward H. Glidden, 412 Equitable Bldg., brick, concrete, steel Boys School, Erdman Ave. near Edison Hy. **$750,000.**

Miss., Jackson—CHURCH—Van Winkle Baptist Church, Hy. 80 W., church. **$350,000.**

Miss., Meridian—CHURCH—Trinity Presbyterian Church, c/o Wm. Archer, archt., WMOX Bldg., church. **$325,000.**

▲ **Mo., Clayton (St. Louis 24, P.O.)**—OFFICE—American Investment Co. of Illinois, Donald Barnes, pres., 411 N. 7 St., St. Louis, Zone 1, multi-story, brick, concrete, steel office, Maryland Ave., near Brighton Way. **$1,000,000.**

Mo., St. Ann (St. Louis 14, P.O.)—CHURCH, etc.—Hope Lutheran Church of St. Ann, Rev. Karl William Riehl, Pastor, 3545 Wismer Rd., Overland Zone 14, plans by Fred Ascoli, 10757 St. Lawrence Lane, Overland Zone 14, church, elementary and junior high schools, parsonage, recreational facilities etc. on 12-acres of ground in Halloway Hills subdivision, south of St. Charles Rock Rd. (U. S. No. 40) in Overland -St. Ann area.

Mo., St. Louis—STORE—F. W. Woolworth Co., 3663 Lindell Blvd., Zone 8, 3 story bsmnt., retail store, on site of present 10-story Equitable Bldg., northwest corner of 6 and Locust Sts.

N. Y., New York—BANK—Chemical Bank & Trust Co., 165 Broadway, Zone 6, plans by Alfred E. Poor, 787 Fifth Ave., Zone 22, bank alterations, 349-53 Fifth Ave. **$850,000.**

▲ **N. Y., New York**—OFFICE—Irving Trust Co., 1 Wall St., Zone 5, plans by Max Foley, 101 Park Ave., New York, Zone 17, office bldg. alterations, 1-7 Wall St. **$2,200,000.**

N. Y., New York—RECTORY, GYMNASIUM—Loyola School Corp., 980 Park Ave., plans by Eggers & Higgins, 100 E. 42 St., New York, Zone 17, rectory and gymnasium, 43-63 E. 83 St., at St. Ignatius Loyola church and school. **$800,000.**

▲ **O., Cleveland**—LIBRARY—Western Reserve University, John S. Millis, pres., 10940 Euclid St. plans by Small, Smith & Reeb, 1010 Euclid St., limestone library, southeast corner of East Blvd. and Bellflower Rd., N. E. **$1,000,000.** CD 10/14/52.

O., Cleveland—OFFICE—Marvin Helf, Inc., 10001 Carnegie Ave., 4-story office bldg. at E. 102 St. and Carnegie Ave., new headquarters for this residential commercial building company and other office space. **$600,000.**

O., Columbus—BUILDING ADDN..—Zenith Holding & Trading Corp., 150 E. Broad St., plans by Inscho, Brand & Inscho, 60 E. Broad St., 6 story approx. 100,000 sq. ft. addn. to 8-story Empire Bldg, 150 E. Broad St.

O., Newark—WING ADDN.—Newark Hospital Assn., Newark, wing addn. for surgery, central supply unit. **$300,000.**

Okla., Ada—TELEPHONE EXCHANGE—Southwestern Bell Telephone Co., 405 N. Broadway, Oklahoma City, plans by Albert S. Ross, Ada, bell telephone exchange, 201 E. Main St. **$200,000.**

▲**R. I., Fort Adams**—APARTMENT—Narragansett Gardens, c/o Anthony Miller, 3333 Arctic Ave., Atlantic City, N. J., plans by Morton Keast, 1201 Chestnut St., Phila., Pa., 200 unit apartment development. **$2,000,000.**

▲ **Tex., Abilene**—BANK, OFFICE—Citizens National Bank, Abilene, 5-story bsmnt., bank and office, (1st floor and bsmnt. for bank, upper floors for offices. **$1,800,000.**

Tex., Amarillo—TOURIST COURT—Troy Jones, 3410 Fillmore St., 100-unit, brick, masonry tourist court, central heating, air-conditioning, incl. cafeteria and service station, 10-acre site. **$325,000.**

Tex., Bryan—EDUCATIONAL—First Methodist Church Congregation, Bryan, plans by Edward Bodet, 3415 Montrose Blvd., Houston, 30,000 sq. ft. concrete frame educational bldg., split stone exterior. **$325,000.** Walter P. Moore, 2 Pinedale St., Houston, consult. engr.

Tex., Corpus Christi—MEDICAL CENTER—Corpus Christi Medical Center, c/o Fred Franklin and Robert Flato, 912 Ocean Dr., plans by C. P. Donnelly, 460 Clifford Ct., 35,000 sq. ft. masonry, concrete, concrete and steel frame Medical Center, Morgan, Kokernot, Baylor and Hospital Sts. **$350,000.**

Tex., Corpus Christi—MOTELS—C. W. Murchinson, 1615 Federal St., Dallas, plans by Richard C. Colley, 310 S. Tancahua St., Unit 1, 75 separate masonry motel bldgs. **$325,000;** Unit 2, 120 masonry separate motel bldgs. **$300,000** in 12-acre tract, east of Baldwin and Hy. 9 intersection.

▲ **Tex., Dallas**—DWELLINGS—Wilson H. Brown Constr. Co., 2711 Inwood St., project abandoned, Unit 1, 38 dwellings, **$345,000;** Unit 2, 32 dwellings, **$315,000;** Unit 3, 43 dwellings, **$375,000;** Unit 4, 45 dwellings, **$390,000.** CD 7/16.

▲ **Tex., Houston**—DWELLINGS—Silbar Realty Co., 3801 Bellaire Blvd., Sect. No. 1, 32 dwellings, **$300,000;** Sect. No. 2, 40 dwellings, **$370,000;** Sect. No. 3, 45 dwellings, **$390,000;** Sect. No. 4, 36 dwellings, **$335,000** in 56-acre tract, south of Brays Bayou.

▲ **Tex., Orange**—HOTEL—Owner c/o Homer Stephenson, Gen. Chmn. Bldg. Committee, Chamber of Commerce, Orange, plans by Jim Ramsey, Orange, hotel, **$1,000,000.**

Tex., Richmond—MOTEL UNITS—Bill Williams, c/o San Antonio Hy., Richmond, plans by Harry A. Turner & Charles Geyer, 2502 Robinhood St., Houston, 30 motel units, rein.-con. swimming pools, **$300,000.** Walter P. Moore, 2 Pinedale St., Houston, consult. engr.

▲**Tex., San Antonio**—DUPLEXES—E. J. Burke & Sons, Inc., 1100 Goliad Rd., 15 frame, brick trim duplexes, concrete slab fdn., north of Goliad Rd., **$375,000;** 25 frame duplexes, concrete slab fdn., off Palfrey Dr., **$375,000;** 32 duplexes, concrete slab fdn., north of Goliad Rd., **$425,000;** 18 frame duplexes, off Palfrey Dr., **$315,000.**

▲ **Tex., San Antonio**—DWELLINGS—Quali-Cut Co., c/o L. R. Pletz, 1231 N.W. 36 St., Sec. 1, 45 dwellings, **$325,000;** Sec. 2, 50 dwellings, **$360,000;** Sec. 3, 38 dwellings, **$300,000;** Sec. 4, 40 dwellings, **$310,000;** Sec. 5, 60 dwellings, **$390,000;** Sec. 6, 48 dwellings, **$340,000,** on north side Old Castroville Rd.

Tex., San Antonio—FINE ARTS, DORMITORY—Trinity University, 715 Stadium Dr., plans by O'Neil Ford, 229 E. Martin St. and Bartlett Cocke, 3501 Broadway, fine arts center, **$300,000;** third unit, women's dormitory, **$325,000.** CD 3/21/51.

Wash., Walla Walla—CHAPEL, ETC.—Walla Walla College, Walla Walla, Plans by E. F. Cross, dean, engr. dpt. 2 story chapel and dormitory, **$350,000;** 2 story home economics bldg., **$350,000.** CD 3/4.

Ont., Peterborough—STORE, SHOPPING CENTER—Simpson-Sears Ltd., 176 Yonge St., Toronto, plans by F. S. Corley, staff archt., 2 story, 51,055 sq. ft. department store and shopping center, on 10-acre site in south end of city.

INDUSTRIAL BUILDINGS

Ala., Siluria—MILL—Buck Creek Cotton Mills, Siluria, rebuilding mill, **$750,000.**

Ark., Searcy—SERVICE CENTER—Arkansas Power & Light Co., Simmons National Bank Bldg., Pine Bluff, service center for Northeast Div., incl. offices, sales and development and division store room, **$200,000.** Ebasco Services, 2 Rector St., New York, N. Y., engrs. CD 7/16.

Conn., West Hartford—FACTORY, STORES—Puritan Furniture Mart, 1041 New Britain Ave., West Hartford, plans by Irving Rutherford, 49 Garden St., Hartford, factory and stores, **$400,000.** John P. Legnos, 1071 Main St., Newington, Conn., consult. engr. CD 4/22.

▲ **Ill., Granite City**—PLANT—A. O. Smith Corp., 3533 N. 27 St., Milwaukee, Wis., automobile frame mfg. plant, **$5,000,000.**

▲ **Ill., Melrose Park**—WAREHOUSE—Jewel Tea Co., Barrington, plans by A. Epstein & Sons Co., 4011 Pershing Rd., Chicago Zone 9, 500,000 sq. ft. warehouse, plus 50,000 sq. ft. 2-story office portion. **$4,000,000.** CD 5/12.

▲ **Kan., Kansas City**—CHEMICAL PLANT—Reichhold Chemicals, Inc., 630 Fifth Ave., New York, N. Y., chemical plant for resins, 8 acre tract, Fairfax Industrial Dist., Sunshine and Fiberglas Rds. **$1,000,000.** Fred P. Walden, c/o owner, devel. engr.

La., New Orleans—SALES, SERVICE—Pontchartrain Motor Co., 719 Baronne St., plans by Weiss & Silverstein, 302 Magazine St., auto sales and service bldg. **$750,000.**

▲ **Mass., Pittsfield**—PLANT—General Electric Co., River Rd., Schenectady, N. Y., 80x210 ft. addn. to the present 1,000-ft. long power transformer tank shop. **$1,000,000.** CD 2/25/52.

▲ **Mo., Pagedale (St. Louis 14 P. O.)**—ADMINISTRATION BLDG.—Metal Goods Corp., R. E. Grote, pres., 5239 Brown Ave., St. Louis Zone 15, plans by Syl G. Schmidt & Assoc., Railway Exchange Bldg., 611 Olive St., St. Louis Zone 1, 3-story 30,700 sq. ft. admin. bldg., 1 story 15,350 sq. ft. parts warehouse, 1 story 106,848 sq. ft. metal and bar stock warehouse, probably masonry, steel and concrete constr., railroad spur, overhead cranes, etc. **$1,500,000.** CD 11/21/52.

O., Defiance—FOUNDRY—Central Foundry Div. General Motors Corp., 37 Florence St., Saginaw, Mich., 200,000 sq. ft. central foundry division plant addn. CD 5/1/47.

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—24"	15.00	13.50
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Ind., Berne—PLANT—Dunbar Furniture Co., Berne rebuilding plant, $100,000.

N. C., Gastonia—PLANT—Manhattan Shirt Co., 444 Madison Ave., New York, N. Y., shirt plant. **$125,000.**

S. C., Lake City—PLANT—Wentworth Mfg. Co., Lake City, plant addn. No. 3. **$100,000.**

Tex., Houston—PLANT—Wagers Packing Co., c/o Wilson H. Wagers, Forest Acres, Houston, meat slaughtering plant. **$100,000.**

Tex., Midland—STORAGE—El Paso Div. Safeway Stores, Inc., Midland, plans by Davis & Foster, archts.-consult. engrs., Mills Bldg., 105x160 ft. stone exterior with brick marlite wainscot general food storage, incl. refrigeration rooms and sales bldg. **$168,000.**

Tex., Canyon—GRAIN ELEVATOR—Conway Kuykendall & John L. Hammond, Canyon, grain elevator, south of here, Ralph Switch, **$150,000.**

Tex., Tyler—GARAGE—Claude S. Holley, 207 E. Charnwood St., plans by Melvin J. Cates, 200½ W. Erwin St., 100x240 ft. storage garage, concrete slab fdn. **$200,000.**

▲ **Wash., Seattle**—PLANT—Kaiser Gypsum Co., Inc., Div. of Kaiser Industries, 1924 Broadway, Oakland, Calif. gypsum board plant and plaster mill on 9.5 acre site Duwamish Waterway, **$4,000,000.** CD 8/10/51.

▲ **B. C., Campbell River**—PULP MILL—Crown-Zellerbach Corp., White Bldg., Seattle, Wash., U. S. A., pump mill, capacity of 300 tons daily. **$25,000,000.**

Ont., Delhi—PLANT ADDN.—Ontario Plant Foods Ltd. Geo. Roe, mgr., Delhi, 1 story, 110x115 ft., cement block plant addn., **$100,000.**

Ont., Kitchener—FACTORY ADDN.—Cluett Peabody & Co of Canada, Ltd., 112 Benton St., plans by Prack & Prack, 310 Main St. E., Hamilton, 2 story, steel frame brick factory addn., **$150,000.**

Ont., Windsor—WAREHOUSE—Western Freight Lines Ltd., 965 Walker St., 1 story 80x200 ft., concrete block warehouse, McDougall St., **$140,000.**

UNCLASSIFIED

Ark., Foreman—GAS SYSTEM—Town, voted bonds, natural gas distr. sys. **$300,000.**

Colo., Denver—RACE TRACK—Mile High Kennel Club Inc., Shirley-Savoy Hotel, plans by Edwin A. Francis, consult. engr. and archt, 218 E. Speer Blvd., steel, concrete race track addn. **$400,000.**

▲ **Ill., Chicago**—AUDITORIUM—Chicago Park District, 425 E. 14 St., Zone 5, auditorium, facing Chicago River between Michigan Blvd. and Outer Dr. **$5,700,000.** CD 6/11/45.

▲ **Ill., East St. Louis**—RACE TRACK—East St. Louis Jockey Club, c/o John H. Stelle, vice pres. and exec. dir., Springfield, race track, incl. grandstand, clubhouse, stables, parking area, fencing, lighting, drainage, etc. Cahokia Downs, on U. S. No. 460 mile and half east of here adjacent to Grand Marais State Park. **$2,000,000.**

Mo., Kirksville—PARK—State of Missouri, c/o Abner Gwinn, State Ch. of Parks, State Office Bldg., Jefferson City development of Thousand Hills State Park east of here, incl. road, water and sewage facilities, cabins. shelter houses, picnic area, etc. **$335,000.**

Okla., Mangum—PARK—Planning & Resources Bd., Capitol Bldg., Oklahoma City, constr. and imprvs. at Quartz Mountain State Park, incl. utilities, shoreline development, picnic areas, water plants, play equip. **$108,000.**

Tex., Orange—LIGHTING, etc.—Goodrich Gulf Chemicals, Inc., Orange, outside area lighting (electric sys.), **$100,000;** natural gas distr. sys., **$75,000,** in 701 acre-tract.

R. I., Providence—INSURANCE—Wayland Building Co., c/o What Cheer Mutual Fire Insurance Co., 720 Grosmer Bldg., plans by Cram & Ferguson, 248 Boylston St., Boston, Mass., insurance bldg., Waterman St. and Wayland Ave. **$500,000.**

▲ **Texas**—GAS LATERALS—Mississippi River Fuel Corp., 407 N. 8 St., St. Louis, Mo., 109 mi. 10, 18-in. gas laterals in Woodlawn and Waskom Fields, **$3,000,000.**

▲ **Texas**—PARKS—State Park Bd., State of Texas, State Bldg., Austin, Eisenhower Park on Lake Texoma, 6 mi. north, **$1,000,000;** Inks Lake Park, near Burnet, **$1,000,000;** Possum Kingdom Lake, near Mineral Wells, **$1,250,000.** each incl resort lodges, playgrounds, athletic courts, swimming pools, etc. CD 8/30/51.

▲ **Tex. San Antonio**—FIRE ALARM SYSTEMS—City, City Hall, Military Plaza, bond election August 18, central fire alarm sys. bldg. at Houston and Nacogdoches Sts., **$995,000;** imprvs. and expans. underground cable fire alarm sys., **$183,560.** T. Coghill, c/o owner, city engr.

Tex., San Antonio—PARKS—City, City Hall, Military Plaza, bond election August 18, parks (not specifically named), **$350,000;** playgrounds, **$150,000.** T. Coghill, city engr. CD 9/17/52.

Tex., San Antonio—TRAFFIC SIGNAL—City, City Hall, Military Plaza, bond election August 18, downtown traffic signal modernization and extens. considerable underground cable. **$500,000.** T. Coghill, city engr. CD 9/19/52.

Bids—Low Bids—Contracts—Second Section

NEW ENGLAND

BIDS ASKED—BUILDINGS

▲ **Conn., Shelton**—SCHOOL—B.A. 8/11—City, School Dpt., City Hall, high school Perry Rd., $1,000,000. Brown & Von Beran, 295 Sherman Ave., New Haven, archts. Hill & Harrigan, 909 Whalley Ave., New Haven, Conn., mech. engrs. CD 1/20.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ **MASSACHUSETTS**—Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston,

Campanella & Cardi Constr. Co., 780 Jefferson Blvd., Warwick, R. I. LB **$1,645,999**, est. $1,500,000, bridge constr. Middlesex Pike Rte. 3, Burlington. Bids July 28. CD 7/14.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **Davison Constr. Co.**, 1306A Elm St., Manchester, N. H. CA Approx. **$2,500,000**, est. $3,000,000. HOSPITAL addn. and alterations, Pleasant St., CONCORD, N. H. Concord Hospital, James Langley, pres. Concord, N. H. Bids June 16. Awarded July 29. CD 6/22 under LB.

▲ **Daniel O'Connells' Sons Inc.**, 480 Hampden St., Holyoke, Mass. CA est. **$2,000,000**. ORPHANAGE expansion, 5 cottage style brick, steel, concrete bldgs., admin. bldg., Brightside Institution, WEST SPRINGFIELD, MASS. R. C. Diocese of Springfield, Most. Rev. Christopher J. Weldon, bishop, 62 Elliot St., Springfield, Mass. CD 7/28.

MIDDLE ATLANTIC

BIDS ASKED—HEAVY CONSTRUCTION

▲ **Md., Baltimore**—B.A. 8/5—City, Bureau Water Supply, 503 Municipal Bldg., Zone 2, Second Phase, Ashburton filtration plant 120 m.g.d., total est. $12,500.000. Plans deposit $100. Whitman, Requardt & Assoc., 1304 St. Paul St., engrs. CD 7/6.

BIDS ASKED—BUILDINGS

▲ **N. Y., Island Trees**—SCHOOL—B.A. 8/12—Bd. Educ., Union Free School Dist. 26, L. Knakal, clk., Island Trees, general constr., heating, ventilating, plumbing and sanitary work, electric Grade School No. 3, Proj. NY 52-c-201a. $1,299,000.

▲ **N. Y., Massapequa**—HIGH SCHOOL—B.A. 8/13—Bd. Educ., Union Free School Dist. 23, Town of Oyster Bay, T. H. Logan, clk., Massapequa, general constr., heating and ventilating, plumbing, electrical work High School and parking area sewage disposal sys. equip. $3,450,000.

▲† **D. C., Wash.**—BIOLOGY-GREENHOUSE BLDG.—B.A. 8/28—General Services Admin., General Services Bldg., 19 and F Sts., N. W. Wash. biology-greenhouse at Howard University, College St. Plans deposit $30. Low Bid Feb. 26 not awarded. CD 2/26, under LB.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ **PENNSYLVANIA**—State Hy. and Bridge Auth., 506 N. Office Bldg., Harrisburg,

Harry C. Erb, Inc., 29 Bala Ave., Bala Cynwyd, Pa. LB **$2,043,015**. 18,137 ft. divided hy. of rein.-con. pavement 24 ft. wide each side of divisor, crushed aggregate base, one I-beam, 2 rein.-con. bridges, T.R. U. S. 1; 13, Falls Twp. Bucks Co. Bids July 24. CD 6/29.

▲ **PENNSYLVANIA—State Hy. and Bridge Auth.**, 506 N. Office Bldg., Harrisburg,

rejected bids June 5, 11,143 ft. divided hy. of rein.-con. variable in width, one plate girder, one reinforced rigid frame and two I-beam bridges, sect. of Schuylkill Expressway, Philadelphia Co. LB **$3,143,570**. CD 6/9 under LB.

▲ **PENNSYLVANIA—State Hy. and Bridge Auth.**, 506 N. Office Bldg., Harrisburg,

rejected bids June 12, 3,531 ft. separated hy. variable in width, three I-beam, one rein.-con. and 2 plate girder bridges, a sect. of Schuylkill Expressway, Philadelphia and Montgomery Counties, LB **$5,221,534**. CD 6/17 under LB.

PENNSYLVANIA—State Hy. Dpt., 506 N. Office Bldg., Harrisburg,

F. D. Kessler, Inc., Northumberland, Pa., CA. **$974,776**, reconstr. and widen 5.77 mi. rein.-con. pavement, const. and I-beam bridge over Wisconisco Creek, extend two rein.-con. bridges, one over Armstrong Creek and one over Gurdy Run, extend three rein.-con. structures, T.R. 14, Halifax and Upper Paxton Twps., Dauphin Co. Bids July 10. CD 7/15, under LB.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **Cauldwell-Wingate Co.**, 101 Park Ave., New York, N. Y. CA **$2,790,500**, general constr.;

Eugene Brandt & Co., 847 11th Ave., New York, N. Y. CA **$1,023,896**, heating, ventilating and air conditioning;

Eastern States Electric Corp., Inc., 221 E. 46 St., New York, N. Y. CA **$553,970** electrical work for Home OFFICE bldg., Grand total $4,368,366. NEW YORK, N. Y. State Insurance Fund, William B. Folger, Exec. Dir., 625 Madison Ave., New York, N. Y. Bids July 9. CD 6/3.

▲ **Ebasco Services, Inc.**, 2 Rector St., New York, **N. Y.** Design and Constr. **$3,500,000**, product development LABORATORY to be known as Bldg. 263, near present turbine factory for testing turbine components, with 2 story low bay approx. 40 ft. wide bldg. for offices and services. 80x200 ft. wide main bldg. with 50-ton traveling crane. SCHENECTADY, N. Y. General Electric Co., River Rd., Schenectady 5, N Y. CD 7/28.

SOUTH

BIDS ASKED—BUILDINGS

▲ **Ga., Cleveland**—PLANT—B.A. 8/5—Ames Textile Corp., c/o The McPherson Co., archt., P. O. Box 2366, Greenville, S. C., textile plant. $2,000,000. (Correction—owner). CD 6/2.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

Torson Constr. Co., 1890 Woodsweather Rd., Kansas City, Mo. LB **$753,960**. 36 in. water main from Riverside Dr. into downtown dist., JACKSON, MISS. City, City Hall, Jackson, Miss. Bids July 20. CD 7/8.

Barber Bros., Box 629, Baton Rouge, La. CA **$656,251**. c. conc. with integral curbs, soil cement base with asph. conc. wearing surf., LAFAYETTE, LA. City, Lafayette, La. Bids July 7, awarded July 21. CD 7/15 under LB.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **Southeastern Constr. Co.**, P.O. Box 1517, Charlotte, N. C., CA **$2,750,000**. OFFICE, CHARLOTTE, N. C. Jefferson Standard Life Insurance Co., Greensboro, N. C. CD 5/8/52 under LB.

▲ **Bailey-Brazell Constr. Co.**, P.O. Box 386, Greenville, S. C., CA **$1,500,000**. 1 story 115x600 ft. BAKERY, with railroad spur Hearon Circle and Rte. 29. SPARTANBURG, S. C. General Baking Co., 420 Lexington Ave., New York 17, N. Y. Bids July 15. CD 7/9.

▲ **Daniels Constr. Co. Inc.**, 822 7th Ave. S.W., Birmingham, Ala. CA Total est. **$10,000,000**. 22-story South Central OFFICE, JACKSONVILLE, FLA. Prudential Insurance Co. of America, 763 Broad St., Newark, N. J. Bids July 15. CD 6/24.

J. A. Jones Constr. Co., 1519 Cleveland Ave., New Orleans, La. CA **$781,711**. partial 2 story, masonry steel 50-bed HOSPITAL, NEW ORLEANS, LA. Crippled Children's Hospital, Inc., 607 Gravier St., New Orleans, La. CD 7/15 under LB.

Armstrong Constr. Co., 151 Shelby St., Kingsport, **Tenn.** LB **$767,500**, HIGH SCHOOL, BLOUNTVILLE, **TENN.** Sullivan Co. Bd. Educ., Blountville, Tenn. Bids July 22. CD 7/14.

MIDDLE WEST

BIDS ASKED—HEAVY CONSTRUCTION

▲ **Wis., Milwaukee**—STADIUM—B.A. 8/21—Milwaukee County Park Comn., Court House, county stadium addn. $1,300,000. Plans deposit $25. Grassold-Johnson & Assoc., 734 N. Jefferson St., Milwaukee Zone 2, archts. Osborn Engrg. Co., 7016 Euclid Ave., Cleveland, O. consult. engr. CD 5/5.

▲† **O., Dayton**—HOSPITAL—B.A. 9/10—U. S. Eng., 830 W. Broadway, Louisville 3, Ky., 5 story rein.-con. with some brick trim, permanent type 314-500 bed hospital and site development, Wright-Patterson Air Force Base. Serial No. ENG 14-029-54-12. Plans deposit $100. Extended date. CD 7/29.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ **OHIO**—Ohio Turnpike Comn., 139 E. Gay St., Columbus Zone 15,

Launder & Son and Pierce Constr. Co., Glendale Ave., Toledo, O., LB **$6,891,387**, bridges and roads 12.1 mi. of Turnpike, Contr. C-51, Contr. C-52, Contr. C-50. Lucas and Fulton Counties. Bids July 29. CD 6/29.

▲ **Horvitz Co.**, Midland Bldg., Cleveland, O. CA **$2,880,078**. est. $3,650,000. roadbed, incl. retaining walls, two rein.-con. overpasses and rebuild highway bridge at West Blvd. for West Side Route of Cleveland Rapid Transit System CLEVELAND, O. Cleveland Transit System, 1404 E. 9th St., Cleveland 14, O. Bids July 17, awarded July 27. CD 7/21 under LB.

▲ **H. D. Tousley Co.**, 925 E. St. Clair St., Indianapolis 4, Ind., LB **$1,264,300**, treatment plant;

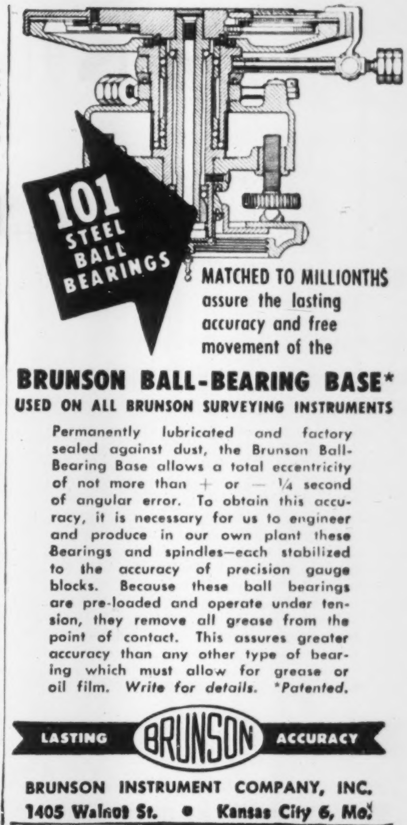
Underground Constr. Co. Inc., 50 S. Noble St., Indianapolis 2, Ind., LB **$2,568,269**, sewers, CONNERSVILLE, IND. Bd. P. Wks., City Hall, Connersville, Ind. Bids July 27. CD 7/13.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **R. S. Noonan, Inc.**, York, Pa., CA **$1,000,000**. 1 story 176,000 sq. ft. concrete block WAREHOUSE with two story attached brick offices, NEWARK, O. William S. Moore, Inc., Newark, O. Sherrill-Noonan, Inc., York, Pa., archts.

▲ **Alvin C. Young**, 6855 Convent Blvd., Sylvania, O. Owner Builds. **$1,500,000**. 100 HOUSES in Monroe Acres Plat 5, Laskey Rd. between Harvest Lane and Talmade Rd. TOLEDO, O.



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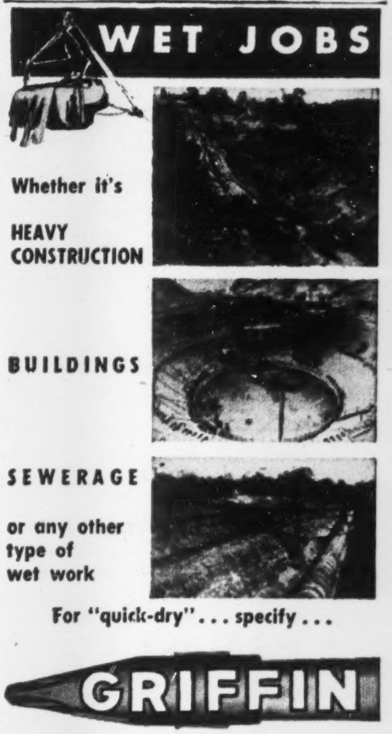

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▲ **McGough Brothers Co.**, 1954 University Ave., St. Paul, Minn. CA **$3,895,000.** 11 and 3 story brick, steel, concrete Hurley HOSPITAL addns., FLINT, MICH. City, City Comn., Flint, Mich. CD 6/25 under LB.

▲ **Felsot Building Co., Inc.**, 951 Penobscot Bldg., Detroit, Mich. CA est. **$3,600,000.** Fort Dix subdivision, 350 HOUSES West Rd., Edsel and Bridge Sts., TRENTON, MICH. Joseph Jaffa, 2289 National Bank Bldg., Detroit, Mich.

WEST OF MISSISSIPPI

BIDS ASKED—BUILDINGS

▲ **Colo., Boulder**—DORMITORY—B.A. 8/26—University of Colorado, Campus, Boulder, 2 and 3 story, brick, stone dormitory, $1,250,000, Peterson & Lindstedt, 1701 Gilpin St., Denver, assoc., archts., Trautwein & Howard, 1411 Walnut St., Phila., Pa., engrs.

▲ **Mo., Kansas City**—AUDITORIUM PARKING—B.A. 10/6—City, c/o Reed McKinley, dir., P. Wks. Dpt., City Hall, municipal auditorium parking facility, and plaza, $3,290,600. New date. Gentry & Voskamp, 4 W. 13 St., Kansas City, Mo., archts. CD 6/4.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

▲ **Zimmer-Fransescan Co.**, 519 Fourth Ave., Moline, Ill. LB **$117,000**, equip.;

Bill Curphy Co., 447 Insurance Exchange Bldg., Des Moines, Ia., LB **$846,290**, sewers and 5 pumping lift stations;

Henkel Constr. Co., 525 9th St., S. E., Mason City, Ia., LB **$465,769**, sewage plant. CLEAR LAKE, LA. City, Clear Lake, Ia. Brown Eng. Co., 322 K P Bldg., Des Moines, Ia., engr Bids July 14.

BUILDINGS

LOW BIDS AND CONTRACTS

▲ **John W. Galbreath Co.**, 42 E. Gay St., Columbus, O. CA est. **$5,000,000.** 300 ranch type HOMES, SHOPPING CENTER for Reserve Mining Co. employees, BEAVER BAY, MINN. Reserve Mining Co., 405 Christie Bldg., Duluth 2, Minn. Houses will be made by Harnischfeger Corp., Port Washington, Wis. and will be erected by MacDonald Constr. Co., 1310 S. Grand St., St. Louis, Mo.

▲ **Wray Russell Constr. Co.**, 310 Wildwood St., Excelsior Springs, Mo. CA est. **$3,000,000.** Blueberry Hill addn., RESIDENTIAL DEVELOPMENT, LIBERTY, MO Legal Reserve Inc. Corp., Nile Adams, 119 E. 9 St., Kansas City, Mo.

▲ **Vineyard Constr. Co.**, 819 Felix St., St. Joseph, Mo. Owner Builds. est. **$1,000,000.** Big Pine addn. HOUSING DEVELOPMENT, incl. 17 bldgs., ST. JOSEPH, MO.

▲ **Knutson Constr. Co.**, 3803 S. Main St., Houston, Tex. LB **$1,476,000**, est. $1,700,000, Garden Villa Junior HIGH SCHOOL, HOUSTON, TEX. Houston Independent School Dist., 1600 Washington St., Houston, Tex. Bids July 23. CD 7/2.

FAR WEST

BIDS ASKED—HEAVY CONSTRUCTION

▲ **Calif., San Francisco**—B.A. 8/18—Public Utility Comn., City Hall, Cherry Valley Dam, Cherry River Proj. HHWC 259, $7,500,000. Extended date. CD 7/15.

HEAVY CONSTRUCTION

LOW BIDS AND CONTRACTS

† **Morgan Electric Co.** and **Wismer & Becker**, 109 W. Harrison St., Seattle, Wash., CA **$990,777**, install equip. in Albeni Falls Powerhouse, Inv. CIVENG 53-59. IDAHO. U. S. Eng., 4735 E. Marginal Way, Seattle 4, Wash. Bids June 26, awarded July 14. CD 4/1, under LB.

▲ † **J. H. Pomeroy & Co.**, 727 W. 7th St., Los Angeles, Calif., CA **$1,046,888.** maintenance hangar and utilities and hangar doors, Nellis Air Force Base, ENG 04-353-53-146. LAS VEGAS, NEV. U. S. Eng., 751 S. Figueroa St., Los Angeles, Calif. Bids July 2. Awarded July 24. CD 7/8 under LB.

▲† **Stanley Ball**, 1101 Westminster Ave., Alhambra, Calif., LB **$1,162,500.** airfield pavement (second increment), Naval Air Station, NOY 76829. Spec. 37480. MIRAMAR, CALIF. P. Wks. Office, Dpt. Navy, San Diego, Calif. Bids July 24. CD 7/15.

▲ **J. H. Pomeroy & Co., Inc.**, 333 Montgomery St., San Francisco, Calif. CA est. **$8,600,000.** with equipment **$40,000,000.** assembly PLANT, MILPITAS, CALIF. Ford Motor Co., 3000 Schaefer Rd., Dearborn, Mich. Bids July 14. awarded July 23. CD 6/24.

CANADA

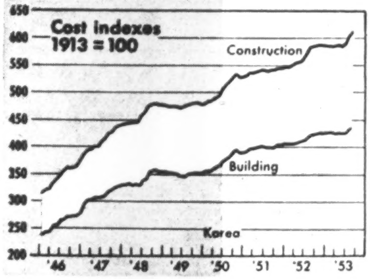
BUILDINGS

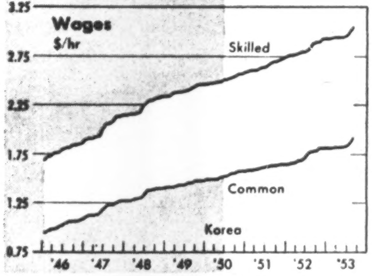
LOW BIDS AND CONTRACTS

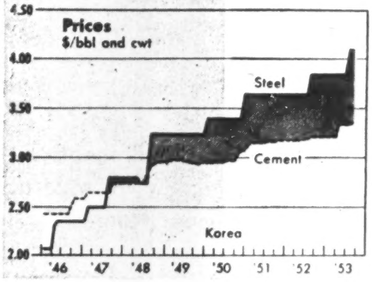
▲ **Geo. Hardy Ltd.**, 163 Wicksteed Ave., Leaside, Ont. CA **$2,600,000.** concrete, steel, brick, stone express GARAGE, office, communications, TORONTO, ONT. Canadian National Rys., K. Huffman, ch. engr., Union Station, Toronto, Ont. CD 6/18 under LB.

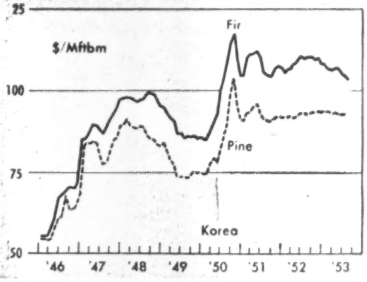
▲ **S. D. Miller & Sons**, 4999 Cote des Neiges Rd., Montreal, Que. CA est. **$3,000,000.** SHOPPING CENTER incl. 40 stores at Dorval Circle, DORVAL, QUE. Dorval Gardens Realty Co., 5400 Hochelaga St., Montreal, Que. Berkowitz & Eliasoph, 1434 W. Ste. Catherine St., Montreal, Que., archts., S. Levine, 4995 Hingston Ave., Montreal, Que., engr. CD 12/9/52.

AUGUST CONSTRUCTION SCOREBOARD









ENR INDEXES (1913 = 100), 20-cities' average	1953 August	% Change from last Month	% Change from last Year
Construction Cost	611.87	+1.3	+4.8
Building Cost	437.05	+0.4	+3.5

WAGE RATES, 20-cities' average			
Common	$1.921	+2.3	+7.1
Skilled (aver. 3 trades)	3.062	+1.4	+6.1
Bricklayers	3.351	+1.0	+4.9
Structural Ironworkers	3.020	+1.8	+6.6
Carpenters	2.815	+1.3	+6.9

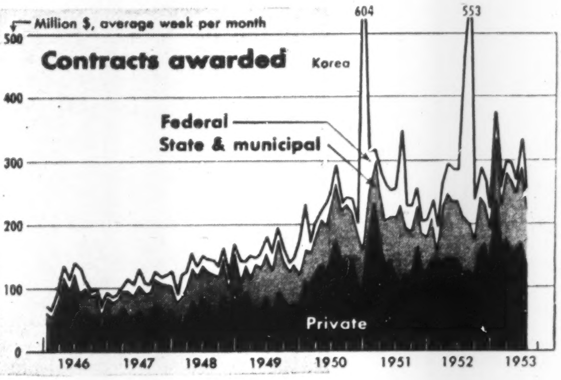
MATERIAL PRICES, 20-cities' average			
Cement, bulk, per bbl	$3.354	+0.4	+4.2
Structural Steel, (3-mill aver.), per cwt	4.100	0.0	+6.5
Sand, per ton	2.187	+0.6	+3.7
Lumber, 2x4 Fir, per M. ft. bm	103.153	−1.6	−6.8
Lumber, 2x4 Pine, per M. ft. bm	92.566	−0.3	−0.04
Common brick, per M	32.729	+0.2	+3.6
Ready-mixed concrete, per c. y	11.913	+0.4	+6.3
Structural Clay Tile, 3x12x12 per M	159.417	+0.4	+4.1

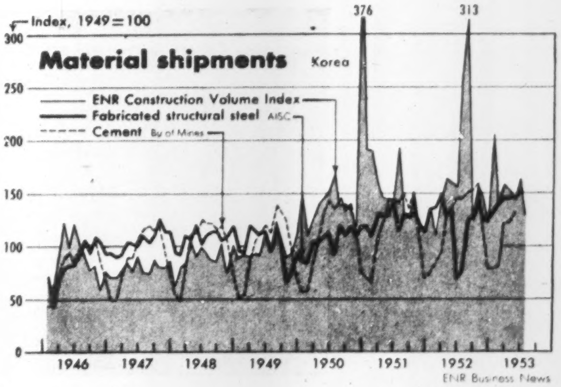
CONTRACTS AWARDED (Millions)	1953 July	1953 7-Mos.	% Change from '52 July	% Change from '52 7-Mos.
Total U. S. (ENR reported)	$1,262.9	$9,234.7	−45.3	+ 1.6
Private	663.7	5,250.1	+ 9.5	+25.4
Public	599.2	3,984.6	−64.8	−18.8
Federal	165.9	972.9	−86.8	−58.1
ENR Volume Index, '13 = 100	447	541	−50.6	− 4.6

NEW CAPITAL (Millions)				
Total	1,996.0	6,493.9	−75.1	−47.1
State & Municipal Bond Sales	596.5	2,877.6	+149.3	+29.5
Corporate Security Sales	489.3	2,647.9	+89.6	+7.9
Federal (non-federal work)	213.1	271.3	−66.8	−65.0
Federal (federal work)	697.1	697.1	−89.9	−89.9

MATERIAL SHIPMENTS & LABOR SUPPLIES (Millions)	May(M) June(J)	5-Mos.(5) 6-Mos.(6)	% Change from '52 Mo.	% Change from '52 Yr.-Cum.
Cement bbls, Bu. of Mines	22.924(M)	92.303(5)	−1.5	+ 4.8
Fabr. Struc. Steel, tons AISC	275(J)	1.506(6)	+120.0	+14.7
Lumber, mil. ft. bm., NLMA	3.306(M)	16.221(5)	+9.1	+ 7.4
Lumber Prod., mil. ft. bm., NLMA	3.200(M)	15.889(5)	+4.4	+ 6.2
Contract Constr. Employ., BLS	2.579(J)	2.386(6)†	−3.2	− 1.6

† Average.





ENR Business News

BUSINESS AND FINANCE

ENGINEERING CONSTRUCTION CONTRACTS—JULY 1953

ENGINEERING NEWS-RECORD *reports continental U. S. Construction projects of the following minimum costs—Waterworks, excavation, drainage and irrigation, \$34,000; other public works, \$60,000; industrial buildings, \$82,000; other buildings, \$300,000*

Five Weeks—Thousands of Dollars (000 Omitted)

	July, 1953							U. S. Cumulative Seven Months		%	Canada
	New England	Middle Atlantic	South	Mid-West	West of Mississippi	Far West	Total U. S.	1953	1952	Change '52 to '53	July 1953
Public Works											
Waterworks	1,471	1,584	3,528	1,387	6,398	2,215	**16,583**	**143,420**	139,298	+ 3	3,613
Sewerage	3,256	7,458	13,387	7,944	5,924	8,340	**46,309**	**243,262**	165,576	+47	2,903
Bridges	398	11,386	4,444	17,117	8,981	9,239	**51,565**	**425,106**	222,510	+91	1,516
Earthwork and drainage	452	7,995	5,755	377	11,307	8,609	**34,495**	**250,338**	324,684	−23	895
Streets and roads	7,852	46,631	33,568	36,386	44,129	24,961	**193,527**	**1,082,079**	929,214	+16	6,519
Public buildings, residential	3,139	2,796	2,989	4,372	3,718	129	**17,143**	**285,056**	483,704	−41	2,579
Other public buildings	9,156	28,695	42,591	26,966	29,276	16,821	**153,505**	**1,032,810**	2,141,880	−52	13,677
Unclassified	9,323	10,329	21,445	9,754	13,447	21,863	**86,161**	**522,490**	501,288	+ 4	14,248
Total Public	**35,047**	**116,874**	**127,707**	**104,303**	**123,180**	**92,177**	**599,288**	**3,984,561**	**4,908,154**	**−19**	**45,950**
Federal government (included in above classifications)	10,114	26,637	42,967	11,874	38,330	35,930	**165,852**	**972,868**	2,319,704	−58	14,299
Private											
Bridges	....	....	....	....	....	....	....	7,052	14,520	−51	....
Industrial buildings	2,751	16,222	31,644	56,341	58,399	5,985	**171,342**	**1,635,285**	1,657,535	− 1	13,137
Mass housing	5,440	112,171	24,803	73,152	31,762	12,843	**260,171**	**2,299,495**	1,836,343	+25	26,249
Commercial buildings	12,972	91,813	17,859	29,183	26,127	1,485	**179,439**	**724,427**	373,483	+94	6,900
Unclassified	500	285	4,736	7,889	33,991	5,351	**52,752**	**583,870**	303,183	+93	2,259
Total private	**21,663**	**220,491**	**79,042**	**166,565**	**150,279**	**25,664**	**663,704**	**5,250,129**	**4,185,064**	**+25**	**48,545**
Total Engineering Construction:											
July, 1953 — 5 weeks	**56,710**	**337,365**	**206,749**	**270,868**	**273,459**	**117,841**	**1,262,992**	....	....	....	**94,495**
June, 1953 — 4 weeks	35,269	316,873	326,745	171,524	280,792	186,867	**1,318,070**	....	....	....	65,661
July, 1952 — 5 weeks	67,346	252,466	1,262,116	211,892	333,397	183,307	**2,310,504**	....	....	....	96,580
Seven Months — 1953	**414,044**	**2,077,570**	**1,699,860**	**2,047,668**	**1,929,717**	**1,065,831**	....	**9,234,690**	....	**+ 2**	**633,857**
Seven Months — 1952	376,330	1,530,574	2,725,896	1,259,130	2,202,713	998,395	....	....	9,093,218	....	713,619
% Change '52 to '53	+10	+36	−38	+63	−12	+ 7	....	....	....	....	−11

New capital for construction

	Week of July 30	Cumulative 31 Wks	
	1953	1953	% chge 1952-53
Corporate securities	\$ 65.4	\$2,647.9	+ 8
Federal loans, priv. constr.	13.5	82.8	−63
State and municipal:			
Excluding housing	84.1	2,664.8	+31
Housing	1.7	212.8	+17
Federal aid, non-fed. constr.	188.5	188.5	−66
Total non-federal	353.0	5,796.8	+ 6
Federal appropriations:			
In U. S.	697.1	697.1	−90
Outside U. S.	....	....	−100
Total new capital	**\$1,050.1**	**\$6,493.9**	**−47**

Activity This Week

As reported to ENR
(in millions of dollars)

Amount of contracts let

	This Week	Cumulative 32 wks 1953	1952	% chge
Federal	\$21.0	\$993.8	\$2,383.2	−58
State and Municipal	84.6	3,096.3	2,674.2	+16
Total pub.	105.6	4,090.1	5,057.4	−19
Total priv.	220.9	5,471.1	4,288.9	+28
U. S. Total	**\$326.5**	**\$9,561.2**	**\$9,346.3**	**+2**

Contracts by type of work

Waterworks	\$4.4	\$147.7	\$142.4	+4
Sewerage	6.8	250.0	175.6	+42
Bridges	8.2	440.2	246.9	+78
Highways	34.1	1,116.1	968.3	+15
Earthwork, Waterways	4.9	255.5	329.0	−22
Buildings:				
Public, excl. hsg.	29.2	1,062.0	2,201.1	−52
Housg., pub.	...	284.9	484.4	−41
Housg., priv.	54.3	2,353.9	1,899.7	+24
Commercial	72.1	796.7	384.2	+107
Industrial	76.8	1,712.3	1,683.9	+2
Unclassified	35.7	1,141.9	830.8	+37
Total	**\$326.5**	**\$9,561.2**	**\$9,346.3**	**+2**

NOTE: Minimum size projects included are: Waterworks and waterway projects, \$34,000; other public works, \$60,000; industrial buildings, \$82,000; other buildings, \$300,000.

ENR indexes	1953	Base Years = 100 1913	1926	1949
Construction cost	**Aug**	**611.87**	**294.13**	**128.27**
	Jul	604.10	290.39	126.64
Building cost	**Aug**	**437.05**	**236.26**	**124.24**
	Jul	435.28	235.19	123.73
Volume	**Jul**	**447**	**182**	**129**

Award pace slows

Seven-month contract award pace is a record, despite June slowdown

Heavy construction contract awards, as reported to ENGINEERING NEWS-RECORD, averaged \$240.6 million per week for the month of July—27% below the pace set in June (ENR July 9, p. 84) and 13% under July of 1952 (excluding the 1952 atomic energy conracts at Paducah and Oak Ridge).

However, total contract volume so far in 1953 is still at an all-time high. For the first seven months of the year, awards topped \$9.2 billion. That's 2% higher than the previous all-time record set in 1952 (including the atomic energy work).

And, while overall contract volume was down in July, there were significant upturns in two categories: commercial and industrial buildings. Commercial construction contracts averaged \$35.9 million per week—topping the previous 1953 high set in May, and only slightly under the record high in November 1952. Industrial contracts hit \$34.3 million per week for the month, compared to a low of \$27.2 million per week in June.

• **The turndowns**—Largest decline for the month showed up in state and municipal work, where awards averaged $86.9 million a week. That was 27% under June, although only slightly below the July 1952 volume of $89.9 million.

Private construction contracts dropped 22% under the June level, to reach a low for the year of $132.7 million per week—still a healthy figure that was 9% over the total for July 1952.

From the viewpoint of comparison with June 1953, federal work showed the smallest decline for July—19% under the previous month, with an average of $33.2 million reported this year. But compared to July a year ago, the volume was very low—50% under the July 1952 figure, even excluding the huge AEC contracts let a year ago.

• **Check points**—Weakest spot in the overall contract volume picture for the month was mass housing. Awards in this category average $52 million per week—the lowest month so far in 1953, and 27% below July 1952.

In the public works classification, only one item—sewerage—showed an increase in volume for the month. Highway and bridge contracts ran below June.

Waterworks, earthwork and waterways, public housing and public buildings awards all ran under the weekly average for June.

Costs climb higher as wage boosts okayed

A third—and by far the biggest—wave of wage boosts, combined with higher cement prices in some areas, has pushed the ENGINEERING NEWS-RECORD Construction Cost Index for 20 cities to a new high for August.

The reading for this month is 611.87 (1913 = 100). This is an increase of 1.3% over July, and represents a 4.8% climb in the 12 months since August 1952.

The ENR Building Cost Index for August also rose to a new high of 437.05, due to increases in skilled wages and changes in cement and lumber prices. This index is up .4% over July and 3.5% over a year ago.

Most of the labor wage increases remained in the 10-15-cent bracket, but jumps of 17 cents an hour for carpenters in Baltimore and 25 cents an hour for ironworkers in Denver were also recorded (see Labor section of this issue for details on wages).

Cement went up by 15 cents per bbl in Detroit, and 9 cents per bbl in Kansas City, Mo.

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FOR GENERAL CONCRETE CONSTRUCTION!

THE IMPROVED
MORE POWERFUL
JACKSON
ENGINE-DRIVEN
FLEXIBLE-SHAFT
VIBRATOR

Model FS-6A. Now furnished with a 6 H.P. engine, providing plenty of reserve power under all conditions, and vastly improved power take-off. Vibrator frequency (up to 7500 VPM) and amplitude are carefully balanced for maximum progress and thorough consolidation. It is available with 3 vibrator heads, for thick or thin sections. Shafting is furnished in 7′ and 14′ lengths up to 28′. Quickly adaptable to concrete rubbing, wet or dry, and drilling. Built to stand severe usage. By any comparison, it's the finest engine-driven vibrator on the market and the best buy! Complete details on request.

The
POWERFUL, LIGHTWEIGHT
JACKSON
ELECTRIC VIBRATOR

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2¼ H.P. MOTOR. FAST — RELIABLE
Has more than ample power for uninterrupted placing of the stiffest mixes, even when using the maximum length of shaft (28′). Provides 8,000 to 10,000 VPM. Built for trouble-free service.

PLUGS INTO LAMP SOCKET
Wherever 115 volt, 60 cycle, single-phase AC or DC is available.

EXTREMELY HANDY
May be had with any length of shaft up to 28′ and choice of 3 vibrator heads. And since it weighs but 50 lbs. it is ideal for thin or thick sections, high places and reaching those otherwise difficult-to-get-to spots. Also ideal for incasing structural members and similar applications.

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Wet or dry, and drilling. A relatively inexpensive vibrator that will do a whale of a job.

VIBRATORS FOR ALL PURPOSES —
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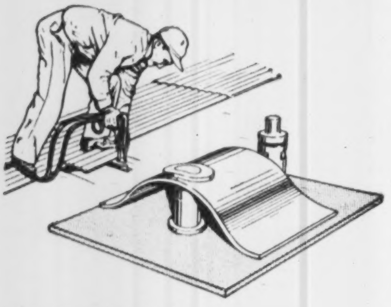
FASTEN IT BETTER... AT LESS COST... WITH NELWELD

AN ELECTRIC ARC WELDING PROCESS

FOR EXAMPLE...
CORRUGATED METAL ROOFING AND SIDING



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FINE APPEARANCE GREATER STRENGTH
LOWER INSTALLATION COST

Nelson construction fasteners are distributed by United States Steel Supply Co., Reynolds Metals Co., Aluminum Company of America, Johns-Manville, Philip Carey Mfg. Co., Armstrong Cork Co., Southern States Iron Roofing Co.

NELWELD
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DIVISION OF GREGORY INDUSTRIES, INC., LORAIN OHIO

OFFICIAL PROPOSALS

Bids: August 25, 1953

New Jersey Turnpike Authority

CONTRACT NO. 108

Proposals will be received for Contract No. 108 which involves the construction of sewage treatment facilities, including connecting sewers, pumping stations and force mains, from the existing buildings to the sewage treatment plant, at Service Areas 1-S and 1-N on the New Jersey Turnpike in Oldmans Township, Salem County, New Jersey.

Proposals will be received at the New Jersey Turnpike Authority, Administration Building, New Brunswick, New Jersey, on August 25, 1953 until 11:00 A.M., Eastern Daylight Saving Time, at which time and place said proposals will be publicly opened and read.

The receipt and opening of proposals is subject to proper prequalification of the bidder in accordance with the regulations adopted by the New Jersey Turnpike Authority. Bidders must also submit with their proposal a revised financial statement and a statement of plant and equipment.

Contract documents may be examined during office hours after August 6, 1953 at the office of the Authority, and at the office of Elson T. Killam, 529 Millburn Avenue, Short Hills, New Jersey. Contract documents will be furnished on the payment of Five Dollars ($5.00) for each set, upon application to the Authority. The payment will not be refunded and contract documents are not required to be returned.

NEW JERSEY TURNPIKE AUTHORITY
Paul L. Troast, Chairman
August 6, 1953

Bids: August 20, 1953

SWITCHGEAR, GROUND AND TEST DEVICES FOR PRIMARY SUBSTATION

THE PORT OF NEW YORK AUTHORITY

Proposal No. 193

Sealed proposals for the supplying of three (3) sets of switchgear for Primary Substation and two (2) sets of ground and test devices for delivery to New York International Airport, Jamaica, N. Y., will be received at the office of the Director of Purchase of The Port of New York Authority, Room 900, 111-8th Ave., New York 11, until 11:00 A.M. Thursday, August 20, 1953, at which time and place proposals will be opened and read.

Contract documents may be obtained upon request at the office of the Director of Purchase.

THE PORT OF NEW YORK AUTHORITY
Howard S. Cullman, Chairman

U. S. Government

Department of Commerce, Bureau of Public Roads, July 28, 1953. SEALED BIDS will be received at the office of the Division Engineer, Bureau of Public Roads, 1440 Columbia Pike, Arlington, Virginia, until 11:00 a.m., D. S. T., SEPTEMBER 3, 1953, for Project 1D5-E5-F6, Baltimore-Washington Parkway, Prince Georges County, Maryland. 6.359 miles Concrete Paving and other work from point about ½ mile north of Good Luck Road to Laurel-Bowie Road. The approximate quantities of the more important items are: 44,800 cu. yd. Excavation, 2,800 tons Hot Asphalt Concrete Pavement, 180,000 sq. yd. Reinforced Cement Concrete Pavement, and 2,500 units of Seeding. Minimum wage rates have been fixed as required by law. Plans, specifications, and proposal forms are available upon request at the address given above. H. J. Spelman, Division Engineer.

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PENCIL COMPANY, INC. NEWARK, N.J.

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Bids: August 20, 1953

NOTICE TO CONTRACTORS: STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.,—Pursuant to the provisions of the Highway Law, Canal Law, Public Buildings Law, and Article 2, Title 9 of the Public Authorities Law, and special provisions for projects financed with Federal Aid funds, sealed proposals will be received until ten-thirty o'clock A.M., advanced standard time, which is nine-thirty o'clock A.M., eastern standard time, on the 20th day of August 1953, by Henry A. Cohen, Director, Bureau of Contracts & Accounts, 14th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., for the following projects:

County	Contract No	Name	Miles	Type	Deposit	Estimated Cost of Work
DISTRICT No. 1 G. L. NICKERSON, District Engineer, 353 Broadway, Albany, New York						
Rensselaer	R.C. 53-105	Various Highways in Rensselaer County	....	Removal of 187 Trees	$700 Plans $10	$13,000
Schenectady	M. 53-2	Barge Canal Dams No. 4 & 5, Scotia and Rotterdam	....	Replacing Movable Dam Gates and Misc. Work.	$3,800 Plans $10	68,090
DISTRICT No. 4 E. G. YOUNGMAN, District Engineer, Barge Canal Terminal, Rochester 1, New York						
Monroe	FASS 53-8	Edgemere Drive (Co. Rd.) Project S-289(1) Cont. 2	0.74	Bit. Mac. Pen. Meth. (Hot Asph.) R.C. Slab Br. (Twin Box) 51.6′	$10,000 Plans $10	173,000
DISTRICT No. 5 C. R. WATERS, District Engineer, 65 Court Street, Buffalo, New York						
Chautauqua	FAC 53-16	City of Jamestown: East Fourth St. & East Second Street (Pendergast Avenue to Winsor Street) Project U-449(6)	0.45	Asp. Conc. Ty. 2A=0.43 Mi. Misc. Work=0.02 Mi.	$10,000 Plans $10	185,000
Chautauqua	FASH 53-12	Water Street: Village of Fredonia Project F-426(4)	0.13	Asp. Conc. Ty. 1A, Opt.	$900 Plans $10	16,000
Niagara	FASS 53-9	Loveland Road (Co. Rd. 13A) Project S-236(3)	0.64	Bit. Mac. Ty. 1 Pen. Meth.	$2,100 Plans $10	36,000
DISTRICT No. 6 J. H. THOMAS, District Engineer, 30 West Main Street, Hornell, New York						
Chemung & Schuyler	FARC 53-95	Alpine-Cayuta Pt. 2 and Cayuta-Swartwood Pts. 1 & 2, S.H. 8242; Cayuta-Swartwood Pt. 2, S.H. 1915 Project F-400(3)	8.37	Asp. Conc. Ty. 1A, Opt.	$35,000 Plans $15	638,000
DISTRICT No. 8 J. S. BIXBY, District Engineer, Pleasant Valley Road, Pouhgkeepsie, New York						
Orange	C.T. 53-11 S.T. 53-27 R.C. 53-106	New York State Thwy.—Catskill Sect.—Sub. 6 Harriman-Newburgh); Harriman Interchange; West Point-Central Valley S.H. 5328-B; Newburgh-Woodbury S.H. 42; Chester-Vails Gate S.H. 154; Newburgh-Campbell Hall, S.H. 153 & 16 Town or County Cross Roads	6.42 Acc. 14.26 Thy.	9″ Cem. Conc. Pavt. 2 @ 25′ Var. Wide=16.74 Mi.; Asp. Conc. Ty. 1A, Opt.=3.23 Mi., Cal. Chl. Tr. Grav.=0.71 Mi.; 9 Hy. Seps. Comp. I-Beam 220.8′ 217.5′, 46.8′, 187.4′, 192.9′, 242′, 253.6′, 69.3′ & 48′; 1 Hy. Sep. I-Beam & Girder 110.4′, 1 Br. Comp. I-Beam 192.7′, 1 Br. Twin Box 40′, 1 R.R. Sep. R.C. Rigid Frame 44.4′, 3 R.R. Seps. Comp. I-Beams 231′, 157.5′ and 219′	$858,000 Plans $100	$15,697,000
Rockland	H.T. 53-8 S.T. 53-29 R.C. 53-109	New York State Thwy.—Hudson Sect.—Sub. 8, (Suffern-Nyack); Spring Valley-Suffern S.H. 9000; Spring Valley-Knapps Cors. S.H. 689; 8 Misc. Cross Roads & Erie Railroad Relocation	3.17 Acc. 4.84 Thy.	9″ Cem. Conc. Pavt. 2 @ 25′ Var. Wide=6.54 Mi.; Asp. Conc. Ty. 1A, Opt.=1.04 Mi.; Erie R.R. Reloc. =0.43 Mi.; Hy. Sep. I-Beam 36.6′; 7 Hy. Seps. Comp. Beams 198.9′, 302.6′, 152.8′, 71.9′, 200′, 206.3′ & 243′; 2 R.R. Septs. Comp. I-Beams 148′, & 233′; 1 Br. R.C. Twin Box 26′	$450,000 Plans $100	7,506,000
Westchester & Putnam	TSP 53-2 BMSP 53-1	Taconic State Parkway Bear Mount State Parkway	4.36	Replacing Rustic Timber G.R.	$4,000 Plans $10	67,000
Westchester	R.C. 53-107	Ossining Village S.H. 5482-1890 Ossining Village Connection, S.H. 9266	0.70	Asp. Conc. Ty. 1A, Opt.	$4,500 Plans $10	84,000
Westchester	FASWC 53-2 FAST 53-28 HT 53-7	New York State Thwy.—Southern West. Connection—Sub. 11 (N.Y.C. Line-Tuckahoe Rd.); Tuckahoe Rd. Interch.; Hudson Sect.—Sub. 10 (Tuckahoe Rd.-Tarrytown) and 5 Secondary Cross Roads Project UI-1100(1) Cont. 1	1.82 Acc. 1.39 Thy.	9″ Cem. Conc. Pavt. 2 @ 25′ Var. Wide=2.81 Mi.; Asp. Conc. Ty. 1A, Opt.=0.30 Mi.; T.C. Graded Gravel B.D.S.T.=0.10 Mi. 2 H.G.S. Comp. I-Beams 132′ & 168′	$202,000 Plans $50	$3,675,000
DISTRICT No. 9 F. W. DONOVAN, District Engineer, 71 Frederick St., Binghamton, New York						
Schoharie	FARC 53-108	Richmondville-Summit, S.H. 1234 Project F-363(6)	2.05	Asp. Conc. Ty. 1A, Opt.	$20,000 Plans $10	340,000
DISTRICT No. 7 R. W. SWEET, District Engineer, 444 Van Duzee St., Watertown, New York						
St. Lawrence	FARC 53-79	Morristown-Hammond Pt. 2, S.H. 970A Project F-650(3)	0.68	Asp. Conc. Ty. 1A, Opt	$6,000 Plans $10	114,000

Maps, plans, specifications and proposal forms may be seen and obtained at the office of the State Department of Public Works, Bureau of Contracts and Accounts, Albany, N. Y., and at the office of the District Engineers noted above, and may also be seen at the office of the State Department of Public Works, 270 Broadway, New York City.

The deposit for Plans and Proposal Forms for each contract is indicated above. A refund will be made in full to bidders for return of one set, in good condition, within 30 days of award, or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

Special attention of bidders is called to "General Information for Bidders" in the proposal, specification, and contract agreement, and to the special provisions applying to projects financed with federal funds. Award of a contract is subject to the "Controlled Materials Plan" of the National Production Authority as well as to regulations issued thereunder.

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by draft or certified check payable to the order of the "State of New York, Commissioner of Taxation and Finance" for the sum as specified in the advertisement and the proposal. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law, as set forth in "Instructions to Bidders."

When optional types are permitted on contracts with federal funds, bidders must state in the space provided in the proposal the exact designation of the optional type upon which the proposal is predicated.

The right is reserved to reject any or all bids.

B. D. TALLAMY
SUPT. OF PUBLIC WORKS

Bids: August 25, 1953

New York International Airport

THE PORT OF NEW YORK AUTHORITY
PAVEMENT ADJACENT TO
OPERATIONS BUILDING

CONTRACT NYA-350.001

Sealed proposals for furnishing and installing paving and utilities adjacent to the Operations Building at New York International Airport will be received at the office of the Chief Engineer of the Port of New York Authority, Room 1100, 111 Eighth Avenue, New York 11, N. Y., until 2:45 P.M., Tuesday, August 25, 1953, at which time and place said proposals will be opened and read.

Contract documents may be seen at the office of the Engineer of Materials of the Authority, Room 1110, and copies will be furnished upon deposit of $25.00 per set. The deposit shall be delivered to the Treasury Department, Room 1001, where a receipt in duplicate will be issued. A copy of the receipt shall be delivered to the Engineer of Materials who will furnish the contract documents. The deposit will be remitted if the documents are returned in good condition, not later than forty days after the opening of proposals. The deposit will be forfeited if the documents are not so returned within the forty days.

THE PORT OF NEW YORK AUTHORITY
Howard S. Cullman, Chairman

New York, August 6, 1953

Bids: August 19, 1953

Construction of Trunk Sewer No. 4 Pine Street to South Avenue
Contract No. 1
City of Poughkeepsie, Dutchess County, New York

Sealed bids for Contract No. 1, Pine Street to South Avenue for the construction of a Sanitary Sewer will be received by the Commissioner of Finance, City Hall, Poughkeepsie, New York until 10:00 A.M. Daylight Saving Time, Wednesday, August 19, 1953 and there at said office and at said time will be publicly opened and read aloud.

Contract No. 1, Pine Street to South Avenue, includes the construction of approximately 4,065 linear feet of 24-inch to 33-inch diameter sewers and appurtenances.

Plans and Documents may be examined at no expense at the office of the Commissioner of Finance, City Hall, Poughkeepsie and copies of the same obtained there upon payment of $10.00 for each set. Any bidder upon returning said set in good condition within 30 days of the date of receiving bids will be refunded his payment, and any non-bidder upon so returning said set will be refunded $5.00.

The Plans and Documents may be examined in the office of the Superintendent of Public Works, Eastman Park, Poughkeepsie, New York or at the office of O'Brien & Gere, Consulting Engineers, 204 East Jefferson Street, Syracuse, New York.

Each bid must be accompanied by security in amount not less than five per centum (5%) of the amount of the bid in the form and subject to the conditions provided in the Information for Bidders contained in the Contract Documents.

The right is reserved to waive any informalities in the bids and to reject any or all bids.

DEPARTMENT OF FINANCE OF THE
CITY OF POUGHKEEPSIE
By: AUBREY B. COONS
Aubrey B. Coons
Commissioner of Finance

July 29, 1953

Bids: August 18, 1953

Contract No. 36, 36A, 36B, 36C

Sealed proposals will be received by the West Virginia Turnpike Commission for:

The work to be done under Contract 36 consists generally in the construction of 20 reinforced concrete bridge decks and the erection of pipe railing on steel superstructure erected by others. The work is located between Mile 71 near Miami and Mile 88 near Charleston, both in Kanawha County, West Virginia, and is in connection with the construction of the West Virginia Turnpike in the State of West Virginia.

Contract 36 consists of the combined quantities of Contracts 36A, 36B and 36C.

The Principal items of Work include:

	Approximate Quantity			
	36A	36B	36C	
Concrete	2,800	1,800	2,000	Cu. Yds.
Reinforcing Steel	760,000	500,000	525,000	Lbs.
Erecting Pipe Railing	5,000	3,700	2,400	Lin. Ft.

Proposals will be received at the office of the West Virginia Turnpike Commission, 1340 Wilson Street, Charleston, West Virginia until 9:00 A. M. Eastern Standard Time, and thereafter at the House of Delegates Chamber, State Capitol, Charleston, West Virginia until 10:00 A. M. Eastern Standard Time, on August 18, 1953, at which time and place said proposals will be publicly opened and read.

WEST VIRGINIA TURNPIKE COMMISSION
D. H. Morton, Chairman
July 23, 1953

Bids: August 18, 1953

Contract No. 33

Sealed proposals will be received by the West Virginia Turnpike Commission for:

The work to be done under Contract 33 consists generally in the construction of reinforced concrete bridge decks and the erection of pipe railing on steel superstructure, erected by others, for Bridges No. 2, 3, 4, 4A, 5, 6, 7, 8B, 9, 10 and 12. The work is located between Mile 1 near Princeton and Mile 18 near Flat Top, both in Mercer County, West Virginia and is in connection with the construction of the West Virginia Turnpike in the State of West Virginia.

The Principal items of work include:

	Approximate Quantity
Concrete	1,775 Cu. Yds.
Reinforcing Steel	429,000 Lbs.
Erecting Pipe Railing	4,200 Lin. Ft.

Proposals will be received at the office of the West Virginia Turnpike Commission, 1340 Wilson Street, Charleston 5, West Virginia until 9:00 A. M. Eastern Standard Time, and thereafter at the House of Delegates Chamber, State Capitol, Charleston, West Virginia until 10:00 A. M. Eastern Standard Time, on August 18, 1953, at which time and place said proposals will be publicly opened and read.

WEST VIRGINIA TURNPIKE COMMISSION
D. H. Morton, Chairman
July 23, 1953

Bids: August 18, 1953

Contract No. 35, 35A, 35B

Sealed proposals will be received by the West Virginia Turnpike Commission for:

The work to be done under Contract 35 consists generally in the construction of 13 reinforced concrete bridge decks and the erection of pipe railing on steel superstructure erected by others. The work is located between Mile 51 near Mossy, Fayette County and Mile 67 near Standard, Kanawha County, West Virginia and is in connection with the construction of the West Virginia Turnpike in the State of West Virginia.

Contract 35 consists of the combined quantities of Contracts 35A and 35B.

The Principal items of work include:

	Approximate Quantity		
	35A	35B	
Concrete	3,880	1,520	Cu. Yds.
Reinforcing Steel	900,000	320,000	Lbs.
Erecting Pipe Railing	7,350	2,750	Lin. Ft.

Proposals will be received at the office of the West Virginia Turnpike Commission, 1340 Wilson Street, Charleston 5, West Virginia until 9:00 A. M. Eastern Standard Time, and thereafter at the House of Delegates Chamber, State Capitol, Charleston, West Virginia until 10:00 A. M. Eastern Standard Time, on August 18, 1953, at which time and place said proposals will be publicly opened and read.

WEST VIRGINIA TURNPIKE COMMISSION
D. H. Morton, Chairman
July 23, 1953

Bids: August 18, 1953

Route 26 Extension (1927), Section 3-A

NOTICE IS HEREBY GIVEN that sealed bids will be received by the State Highway Department for:

Paving Rt. 26 Ext. (1927), Sec. 3-A, from Strawberry St. to Whitehead Road; Grading, Bridge and Walls, City of Trenton and Townships of Lawrence and Hamilton, Mercer County. Federal Project No. UI-196(1). Length 0.965 mile. The principal items of construction are:

		Roadway Items
Estimated:	6,805	cu. yds. Roadway Excavation-Earth
	500	cu. yds. Roadway Excavation-Rock
	10,100	cu. yds. Wet Excavation
	338,848	cu. yds. Borrow Excavation
	52,810	cu. yds. Channel Excavation
	21,209	cu. yds. Macadam Base Course
	21,209	sq. yds. Pavement, Type MA-BC-2, 3" thick
	25,026	sq. yds. Conc. Pavement Surface, Rein. 10" thick
	3,097	lin. ft. Rein. Conc. Culvert Pipe
	22,426	lin. ft. White Concrete Curb
		Spillway Items
	1,491	cu. yds. Earth Excavation
	7,590	lbs. Reinforcement Steel
	649	cu. yds. Class C Concrete
	134	in. ft. 95"x67" Corrug. Metal Pipe Arch, Bit. Coated
		Bridge Items
	6,258	cu. yds. Concrete in Structures
	158,550	lbs. Reinforcement Steel in Structures
	476,500	lbs. Structural Steel
	88,860	sq. ft. Steel Sheet Piling
	1,035	lin. ft. Untreated Timber Piles

Bids for the above will be received at the office of the State Highway Department, Assembly Room, Room 140, State Highway Office Bldg., 1035 Parkway Ave., Trenton, N. J. on Tuesday, August 18, 1953, at ten o'clock (10:00 A.M.—EASTERN STANDARD TIME), eleven o'clock (11:00 A.M.—DAYLIGHT SAVING TIME) and will be opened and read immediately thereafter.

The receipt and opening of bids is subject to the proper qualification of the bidder in accordance with the provisions of the prequalification law and the regulations adopted by the State Highway Commissioner. Bidders must also submit a revised financial statement and statement of plant and equipment with their bid.

NOTE: The proposed project is a "Federal Aid Project" authorized by the provisions of Title 27 of the revised statutes of New Jersey and supplements, and by P. L. 413, 82nd Congress, and is to be performed in accordance with the special provisions and requirements of the Bureau of Public Roads, Department of Commerce, as outlined in the specifications, which provisions require that labor be employed from lists furnished by the State Employment Service, 6-12 N. Willow St., Trenton, N. J. The attention of bidders is directed to the special provisions covering subletting or assigning the contract. The minimum wage paid to all unskilled labor employed on this contract shall be $0.75 per hour. The minimum wage paid to all intermediate grade of labor employed on this contract shall be $1.00 per hour. The minimum wage paid to all skilled labor employed on this contract shall be $1.50 per hour.

Drawings, specifications and form of bid, contract & bond for the proposed work are on file in the office of the State Highway Department, Trenton, N. J., and may be inspected by prospective bidders during office hours. Plans will be furnished on a deposit of Ten Dollars ($10.) for each set of plans upon application to A. Lee Grover, Chief Clerk, State Highway Department, Room 139, State Highway Office Bldg., 1035 Parkway Ave., Trenton, N. J. Bids must be made upon the standard proposal forms in the manner designated in the standard State Highway specifications and must be enclosed in sealed special addressed envelopes bearing the name and address of the bidder and work bid upon on the outside, and must be accompanied by a certified check drawn to the order of the Treasurer of the State of New Jersey for not less then ten percent (10%) of the amount of the bid, provided that the said certified check shall not be less than $500, nor more than $20,000, and must be delivered at the above place on or before the hour named. Copies of the standard proposal forms and special addressed envelopes will be furnished on application. Bids not enclosed in sealed special addressed envelopes will be considered informal and will not be opened. The right is reserved to reject any or all bids.

Signed: State Highway Department
A. Lee Grover, Chief Clerk

Bids: August 17, 1953

Construction of an Intake Tunnel

NOTICE TO BIDDERS

Notice is hereby given that pursuant to a resolution of the Town Board of the Town of Tonawanda, Erie County, New York, sealed proposals will be received and considered by said Town Board on the 17th day of August, 1953, at 8:00 o'clock P.M., Eastern Daylight Saving Time, in the Council Room of the Municipal Building, Kenmore, New York, for furnishing all material, equipment, and together with all labor for the construction of an intake structure in the Niagara River, intake tunnel or pipe conduit, approximately 5,800 feet in length, and riser well, and other appurtenant work, in accordance with the contract documents therefore, including plans, specifications, instructions to bidders, etc., prepared by Nussbaumer, Clarke & Velzy, Consulting Engineers of the Town of Tonawanda, New York, and approved by the Town Board of said Town, all of which are on file with the Town Clerk, at his office in the Municipal Building, Kenmore 17, New York, where the same may be examined during the usual business hours.

Copies of the proposed contract documents, plans, specifications, and instructions to bidders, may also be examined at the office of Nussbaumer, Clarke & Velzy, Consulting Engineers, 327 Franklin Street, Buffalo 2, New York. One Copy of said proposed documents may be obtained upon payment of $35.00. Any bidder, upon returning said plans and contract documents in good condition, within twenty (20) days following the taking of bids, will be refunded the full amount of his deposit; non-bidders will similarly be refunded only one-half the deposit.

The Town Board of the Town of Tonawanda, New York, reserves the right to reject any or all bids, or to waive any informalities, or to make an award to other than the low bidder.

Each proposal must be accompanied by a certified check for a sum equal to five per centum (5%) of the estimated expense of the total improvements, payable to the order of the Supervisor, or a bond with sufficient sureties to be approved by the Supervisor, or a penal sum equal to five per centum (5%) of the estimated expense of the improvement, to wit: $55,000.00 for the total improvement, conditioned that, if his proposal is accepted, he will enter into a contract for the same, and that he will execute such further security as may be required for the faithful performance of the contract.

No bidder may withdraw his bid within sixty (60) days after the date set for the opening thereof, but may withdraw same at any time prior to the scheduled time for the opening of bids.

ROBERT JOHNSON
Town Clerk
Town of Tonawanda, New York
Dated: July 20, 1953
Published: July 23, 1953

Make Plans Accessible to Distant Bidders

Plans and specifications for inspection by distant bidders may be filed at any of **Engineering News-Record** offices without charge. Or a sufficient supply may be deposited at such of our offices as seem desirable subject to your usual requirements in the matter of deposits, etc. (We assume full responsibility for return of plans or collection and return of deposits).

OFFICIAL PROPOSALS

Bids: November 30, 1953

SNOWY MOUNTAINS HYDRO-ELECTRIC AUTHORITY

Construction Work

AUSTRALIA

Tenders are invited for Schedule of Rates contracts for furnishing labour and materials and performing all work for the construction in New South Wales, Australia, of the following work:

CONTRACT NO. 20,002 EUCUMBENE-TUMUT TUNNEL AND APPURTENANT WORKS

These works include a concrete-lined tunnel 21 feet in diameter and 13.8 miles long and associated works including an access tunnel 4,000 feet long, an intake shaft 18 feet in diameter and 300 feet deep, two gate shafts, one 200 feet and the other 380 feet deep, and a concrete diversion dam about 100 feet high and 260 feet long at crest level.

CONTRACT NO. 20,003 TUMUT POND DAM AND T.1 PRESSURE TUNNEL

These works include a concrete arch dam about 290 feet high with a crest length of about 715 feet, a concrete-lined pressure tunnel 21 feet in diameter and 8,000 feet long and an underground surge chamber.

CONTRACT NO. 20,004 T.1 POWER STATION, PRESSURE SHAFTS AND TAIL-RACE TUNNEL

These works include an underground power station with a machine hall, 330 feet long by 55 feet wide by 110 feet high and an underground transformer hall, two steel-lined pressure shafts each 12 feet in diameter and 830 feet in depth, tail-race tunnel 4,000 feet long and an access tunnel 1,200 feet long. The power station will contain 4 hydraulic turbine and generator sets each of 80,000 kilowatts. The supply and installation of hydraulic turbines and generators with appurtenant electrical equipment is not part of this contract.

LOCATION

The works are situated in the Snowy Mountains in the south-eastern part of the State of New South Wales, Australia, at approximately longitude 148°30'E Latitude 36°S. The elevation of the works varies between 2,500 and 4,000 feet above sea level.

TENDER DOCUMENTS

Tender documents comprising Form of Tender, Conditions of Tendering, General conditions of Contract, Draft Form of Agreement, Schedule of Quantities and Rates, Specifications, and Drawings may be obtained by prospective Tenderers at a charge of $25.00 per Contract set on application to:—

Chief Administrative Officer,
Snowy Mountains Hydro-electric Authority,
Box 32, P.O., COOMA, 4S, N.S.W., Australia.
or
Australian Consulate-General
636 Fifth Avenue,
New York 20, N. Y.

PRELIMINARY DEPOSITS

A preliminary deposit of £A10,000 payable at Sydney, New South Wales, Australia, must be lodged with the tender for each contract.

INSPECTION OF SITE

Tenderers are required to inspect the site of the works and on arrival in Australia should communicate with the Authority's Office at Yurong Street, Sydney, or Head Office at Cooma, New South Wales.

GENERAL INFORMATION

For its own purposes the Authority has compiled certain information regarding wages and conditions of employment, the geology, hydrology and meteorology of the region and general information concerning local conditions. The information is not part of the Tender documents. This information will be made available to Tenderers on their inspecting the site on the express conditions that it is not binding on the Authority or the Tenderer and that the Authority is not held responsible for the matter contained therein.

TENDERER'S EXPERIENCE

Tenderers are required to submit with their tender evidence of the resources and ability to carry out the contract and details of their past achievements on works of a similar nature. The Authority expressly reserves the right to reject any tender where the facts as to the tenderers experience business and technical organizations and financial and other resources when compared to the works to be carried out justify such rejection.

ACCEPTANCE OF TENDER

The Authority shall not be bound to accept the lowest or any tender.

SUBMISSION OF TENDERS

Tenders for any or all of the contracts must be submitted in duplicate in accordance with the Conditions of Tendering, enclosed in sealed envelopes appropriately endorsed with the contract number and name of the work tendered for, and addressed to:

The Commissioner,
Snowy Mountains Hydro-electric Authority,
Box 32 P. O.,
COOMA, 4S, N.S.W.,
Australia.

The tenders must be lodged in the Tender Box at Head Office of the Authority at Cooma or be sent by prepaid post in time to be delivered in the ordinary course of mail by 12 noon on Monday, 30th November, 1953.

W. Hudson,
Commissioner.

Bids: August 26, 1953

NOTICE TO BIDDERS
Contract C-13
Contract C-14
Contract C-13&14

Sealed proposals will be received by the Ohio Turnpike Commission for the performance of each of the contracts enumerated above.

The work covered by Contract C-13 consists generally of the construction of grading, drainage, structures, and paving of approximately 4.6 miles in Construction Section 13 of Ohio Turnpike Project No. 1, beginning at a point about 0.45 miles north of Brandywine Creek and about 3.53 miles west of the Portage County line at Turnpike Centerline Station 534+77 in Summit County, and extending eastwardly along the route of the Turnpike to a point about 1.1 miles east of the Summit County line at Turnpike Centerline Station 56+50 in Portage County, and the construction of an engineer's office building and facilities on or near the site of the work.

The work covered by Contract C-14 consists generally of the construction of grading, drainage, structures, and paving of approximately 4.64 miles in Construction Section 14 of the Ohio Turnpike Project No. 1, beginning at a point about 0.3 miles south of Boston Mills Road and about 8.24 miles west of the Portage County line at Turnpike Centerline Station 288+46 and extending eastwardly along the route of the Turnpike to a point about 3.53 miles west of the Portage County line at Turnpike Centerline Station 534+77, all in Summit County.

The work covered by Contract C-13&14, which covers a combination of Construction Sections 13 and 14, is the construction as above generally described for the individual Construction Sections, taken together.

In Construction Section 13, the principal structures to be built are three reinforced concrete box culverts, four steel beam bridges of from three to four spans each supported on reinforced concrete abutments and bents, and one steel beam highway trestle of twenty-five spans supported on concrete abutments and concrete pile bents. The abutments of three bridges are to be on cast-in-place reinforced concrete piles. One abutment of one bridge is to be on steel piles, the other abutment is to be on rock. The abutments of the highway trestle are to be on reinforced concrete piles. The bents of three bridges are to be on cast-in-place reinforced concrete piles and the bents of one bridge are to be on spread footings.

In Construction Section 14, the principal structures to be built are one reinforced concrete box culvert, six steel beam bridges of from four to five spans each, one steel arch bridge, one plategirder bridge of five spans and the east abutments of the twin bridges over the Cuyahoga River (the balance of which are being constructed under Contract C-15). The abutments of the steel arch bridge are to be on rock; the east abutments of the Cuyahoga River Bridge and the abutments of three bridges are to be on steel piles; and the abutments of four bridges are to be on cast-in-place concrete piles. The bents of four bridges are to be on cast-in-place concrete piles; the bents of two bridges are to be on rock; and the bents of one bridge are to be on steel piles.

Approximate quantities of the major items of construction for Contract C-13 are as follows:

Roadway Excavation	1,330,000 cubic yards
Structural Concrete	9,000 cubic yards
Reinforcing Steel	1,773,000 pounds
Fabricated Structural Steel, (excluding furnishing and fabricating)	2,590,000 pounds
Concrete Bearing Piles	28,000 lineal feet
10" Reinforced Concrete Pavement	128,000 square yards

Approximate quantities of the major items of construction for Contract C-14 are as follows:

Roadway Excavation	3,553,000 cubic yards
Structural Concrete	8,000 cubic yards
Reinforcing Steel	1,123,000 pounds
Fabricated Structural Steel, (excluding furnishing and fabricating	4,639,000 pounds
Concrete Bearing Piles	19,000 lineal feet
Steel Bearing Piles	33,000 lineal feet
10" Reinforced Concrete Pavement	153,000 square yards

For each Contract, fabricated structural steel and structural expansion and/or contraction joints will be furnished by the Commission.

Copies of the Plans and General Specifications for said Contracts are immediately available for public inspection or purchase at the office of the Chief Engineer, Ohio Turnpike Commission, 139 East Gay Street, Columbus 15, Ohio. These documents may be purchased from said Chief Engineer for the following sums, per set, which sums are non-returnable:

General Specifications for Ohio Turnpike Project No. 1	$ 5.00
Plans (also soil profiles and boring logs), per set, per construction section	15.00
Cross Sections, per set, per construction section	25.00

Forms or copies of all remaining Contract Documents, including Proposals for each of the Contracts set forth above, the Affidavit which must accompany any such proposal, this Notice to Bidders, the Special Provisions applying to said Contracts, the Contract to be entered into with the (or each) successful bidder, and the Contract Bond to be furnished with such Contract, will be furnished upon request and without charge to any interested person at the aforesaid Chief Engineer's office on and after July 24, 1953.

All Proposals must be on the form prescribed by the Commission and must comply with the terms and conditions set forth in the Contract Documents.

Each Proposal must be accompanied by a certified check or checks on a solvent bank or banks, payable to the order of the Ohio Turnpike Commission in an amount not less than $100,000 per Construction Section covered by the Contract on which the Bidder bids. If the Bidder shall tender bids for more than one Contract, said amount shall be not less than $100,000 per Construction Section covered by the Contracts on which he shall tender Proposals; provided, however, that if one or more Construction Sections are included in more than one Contract for which the Bidder shall tender Proposals, the Bidder need furnish only $100,000 per each such section, notwithstanding such duplication. The Commission may at any time cash any such checks. Each such check or the proceeds thereof will be held by the Commission as a guaranty that, if any proposal guaranteed thereby is accepted, a Contract will be entered into and the performance of the Proposal secured.

Each such check or the proceeds thereof will be returned or forfeited as provided in paragraphs G-3.03 and G-3.06 of the aforesaid General Specifications, provided that if there be a forfeiture, it shall be of an amount equal to $100,000 per Construction Section covered by the Proposal with respect to which the forfeiture occurs, and any excess will be returned to the Bidder.

All bids must be received at or before 10:00 A.M. Eastern Standard Time, August 26, 1953, in the offices of the Ohio Turnpike Commission, 139 East Gay Street, Columbus 15, Ohio. At said hour, the bid box will be removed to the Neil House Hotel, 41 South High Street, Columbus, Ohio, where all proposals will be publicly opened and read.

The award of any of the above-enumerated contracts, if any award be made, will be to the Bidder or Bidders whose Proposal or combination of Proposals is lowest and best for the performance of the work, taken as a whole, and complies with all the prescribed requirements. The Commission reserves the right to reject any or all Proposals and to waive technicalities.

OHIO TURNPIKE COMMISSION

READ THE OFFICIAL
PROPOSAL COLUMN OF
ENGINEERING NEWS-RECORD
THIS WEEK AND EVERY WEEK

(Continued from preceding page)

OFFICIAL PROPOSALS

Bids: September 3, 1953

City of Niagara Falls, New York Water Supply Improvements Alterations to Existing Plant

Sealed proposals will be received by the City Manager of Niagara Falls, New York, at his office in said City not later than 10:00 A.M., Eastern Daylight Saving Time, on September 3, 1953, at which place and hour they will be publicly opened and read, and contracts awarded as soon thereafter as practicable, for alterations to an existing water treatment plant located south of Buffalo Avenue at 53rd Street, in the City of Niagara Falls.

The work is divided into four Divisions. Each bidder may submit a proposal for any Division, for all Divisions, or for any combination of Divisions.

Division 14, Structures, comprises the construction of an addition to the existing filtration plant, with reinforced concrete substructure on pile foundations and structural steel and brick superstructure, removal of certain existing piping and equipment, structural modifications to the existing structure, and construction of pipe lines outside of the building.

Division 15, Piping and Equipment, comprises the furnishing and installing of all interior process piping and mechanical equipment.

Division 16, Electrical Work, comprises the furnishing and installing of electrical equipment, wiring, and conduits.

Division 17, Heating, comprises the furnishing and installing of certain heating equipment, piping and appurtenances in the existing filtration plant and the new additions.

All work shall be in accordance with the Instructions to Bidders, Proposal, Agreement, Specifications, form of Performance Bond, and Plans on file at the office of the City Engineer, City Hall, Niagara Falls, New York, and at the office of Greeley and Hansen, Engineers, 220 South State Street, Chicago 4, Illinois. Copies of these Contract Documents may be obtained from the City Engineer or from Greeley and Hansen, upon the deposit of $20.00 for each set. The amount of the deposit will be refunded if the Documents are returned in good condition within 30 days after the opening of bids.

A bank draft or certified check, in the amount of not less than five per cent of the total of the bid, made payable, at sight, to the City Manager, Niagara Falls, New York, must accompany each proposal.

The Contractor shall furnish a performance bond approved by the Corporation Counsel in the amount of 100 per cent of the contract price.

The City reserves the right to waive any informalities in or reject any or all bids and to accept the bid which it deems most favorable to its interest, after all bids have been examined and canvassed.

CITY OF NIAGARA FALLS
(signed) Harold R. Cheek,
City Manager
Dated: August 3, 1953

U. S. Government

DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. DC-4006) will be received at Palisades, Idaho, until August 27, 1953, for furnishing labor and materials for relocation of Forest Service roads, Big Elk Creek and Little Elk Creek, and Dam access road, Palisades Project. Location: Vicinity of Palisades Dam approximately 55 miles southeast of Idaho Falls, Idaho. Principal items are: 46,500 cu. yds. excavation for roadway; 612 lin. ft. furnishing and laying 18-inch and 24-inch diameter culvert pipe; 1,500 cu. yds. gravel surfacing; 4,400 mile cu. yds. overhaul; 2 cattle guards, furnishing and constructing cattle guards; and other work. Completion time 270 and 400 days. For particulars, address Bureau of Reclamation, Palisades, Idaho; or Building 53, Denver Federal Center, Denver, Colorado.

FRED G. AANDAHL, Assistant Secretary for Water and Power Development
Department of the Interior

SEARCHLIGHT SECTION

(Classified Advertising)

EMPLOYMENT: "OPPORTUNITIES" :EQUIPMENT
BUSINESS: :USED OR RESALE

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$1.50 a Line, minimum 3 lines. To figure advance payment count 5 average words as a line.

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***Box Numbers* in care of our New York, Chicago and San Francisco Offices count as one additional line.**

***Replies* are forwarded each day as received at each of the offices mentioned without additional charge.**

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The advertising rate $17.10 per inch for all advertising appearing on other than a contract basis. Contract rate quoted on request.

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SEND NEW ADVERTISEMENTS to N. Y. office, 330 W. 42nd St., N. Y. 36, for August 20th issue, closing August 10th

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

EXPERIENCED ELECTRICAL maintenance engineer. Primary duty to service and maintain electrical equipment in several large material producing plants. Must be familiar with large high-voltage electric motor installations. Good permanent position for right man. P-8520, Engineering News-Record.

CONSTRUCTION SUPERINTENDENT — Age 30-40 with minimum of 10 years experience in industrial and commercial construction. Complete charge of field activities of small (75 employees) long established general contractors. Give full particulars in application. Salary open. Location in Southeastern Pennsylvania. P-8518, Engineering News-Record.

HIGHWAY AND Bridge Engineers, Designers and Draftsmen—to fill positions with growing permanent organization located in Baltimore, Maryland, currently engaged on large highway and bridge projects. Must be experienced in expressway design. Attractive salaries with unlimited opportunities. Submit complete resume of education, experience, salary expectations and availability with first letter. J. K. Knoerle Consulting Engineers, Inc. 607 St. Paul Street, Baltimore 2, Maryland.

WANTED PLANT Supt by established Southern manufacturer of Structural Precast Concrete Products. Specializing in Floor and Roof systems. Annual Sales well over one million dollars. State age, experience, availability, salary and full particulars first letter. P-8706, Engineering News-Record.

WANTED A Structural Engineer capable of designing and detailing steel in connection with heavy steel erection. Excellent opportunity for an aggressive man with Large Steel Erector having operations all over the U.S.A. Write P.O. Box 1624, Muskogee, Oklahoma.

ENGR. CIVIL and Arch., age 30, married, 4 yrs. experience Arch. design and const. inspection, hydrology, survey and soils. Desire permanent connection with Arch. firm or construction co., prefer mid-west. Now employed same position since graduation. P-8717, Engineering News-Record.

DETAILERS—STRUCTURAL Steel. Experienced on Bridges desirable. Top rates, voluntary overtime, permanent. Write or phone, Erdner Engineering Co., 29 E. Madison St., Chicago 2, Ill.

WANTED—CONSTRUCTION Superintendent—Must have experience in construction of gas transmission and distribution systems. P-8707, Engineering News-Record.

ASPHALT PAVING Engineer experienced in Laboratory & Field control procedures. Overseas assignment for approximately 12 months. If interested advise age, salary desired & experience. P-8643, Engineering News-Record.

(Continued on the opposite page)

WANTED—An experienced CONSTRUCTION SUPERINTENDENT

Large well established Chicago building contractor desires services of general supt. Age preferably 35-45.

Must be cost conscious, able to sit in on pricing. Building projects located in Chicago and Midwest.

Excellent salary and bonus. Replies confidential.

P-8582, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

ESTIMATORS

Young engineers capable of mechanical estimating for construction of refineries, steam power and similar industrial projects. Must have some field experience.

Considerable weight given to ambition, intelligence and interest in estimating and cost analysis.

BECHTEL CORPORATION
220 Bush Street
San Francisco, California

BRIDGE - HIGHWAY ENGINEERS
DESIGNERS - DRAFTSMEN

For work on major bridges, expressways, and turnpikes. Permanent positions with periodic promotions depending on experience and ability. Paid vacations, sick leave, hospitalization and life insurance. Include experience, salary requirement in first letter. Photograph optional.

Howard, Needles, Tammen & Bergendoff
Consulting Engineers
1805 Grand Ave., Kansas City 8, Mo.

EXPERIENCED
STRUCTURAL STEEL DETAILERS

Salary Commensurate with experience.

Darbyshire Steel Co., Inc.
P. O. Box 352 El Paso, Texas

WANTED
Gravel Plant Foreman

Must have experience and producing knowledge of equipment and ready mix plant. References.

P-8712, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

WANTED
CONSTRUCTION SUPERINTENDENT

Experienced on heavy Highway and Railroad Bridge Construction, on the Multi-Million Dollar Expressways in the Detroit Area. Applicant must be strictly a job pusher, with successful background, experience and sobriety.

F. C. ATLETWED
Box 175 St. Clair, Mich. or call Detroit Tyler 8-2101

Don't forget
THE BOX NUMBER . . .

when answering the classified advertisements in this magazine. It's our only means of identifying the advertisement you are answering.

POSITIONS VACANT

(Continued from opposite page)

SUPERINTENDENT AND Operators wanted for new 8 MGD Sewage Treatment Plant. Positions available September 1953. Apply Division of Sanitation, Fairfax County, Fairfax, Virginia.

WANTED—CONSTRUCTION Superintendents. Permanent. Willing to Travel. Ages—30 to 40 years. Engineers preferred. Immediate assignment. Lewis C. Bowers & Sons, Inc. Princeton, N. J. PHone 2001.

FOREMAN, WHO knows Sewer and Water Line construction and who can manage men. Located Indianapolis, Ind. Submit qualifications, salary expected, availability. P-8606, Engineering News-Record.

BUILDING SUPERINTENDENT to act as Project Manager, want experienced man, who knows plans thoroughly. Prefer man who has laboratory or hospital experience. Job located 40 miles from Baltimore and Washington. Good opportunity and top pay for right man. Write full details. P-8527, Engineering News-Record.

SELLING OPPORTUNITIES OFFERED

SALES ENGINEERS—Albany, New York and Pittsburgh, Pennsylvania with established national concern selling prefabricated metal products to engineering and construction markets. Position offered is permanent and presents excellent future with aggressive, progressive and expanding organization. Engineering degree desirable. Previous sales experience unnecessary. Age 24 to 30. SW-8254, Engineering News-Record.

MANUFACTURER'S AGENTS wanted for territories in North Central United States to handle steel and aluminum railings for bridges and buildings. All territories open. Agent must carry allied lines. Write or call: National Railing Corporation(4319 West 32nd Street, Chicago 23, Illinois. Phone LAfayette 3-1633.

EMPLOYMENT AGENCIES

WANTED ENGINEERS, Designers, Draftsmen, Structural, Piping, M.E., C.E., E.E., and Industrial, also Teachers and Chemists, Cleveland Engineering Agency, 2132 E. 9, Cleveland.

POSITIONS WANTED

CHIEF ACCOUNTANT—Office Manager seeks position in Latin America; 10 yrs. experience in Latin America; 10 yrs. experience in L.A. countries on engrg. and construction projects handling accounting, office management. Legal liaison work. Fluent Spanish. Also 10 yrs. accounting experience in U. S. Age 43, married. PW-8330, Engineering News-Record.

GENERAL SUPERINTENDENT 25 years diversified heavy construction experience. Good background, know men and equipment. Available any location immediately. PW-8549, Engineering News-Record.

ESTIMATOR WITH field experience as Superintendent familiar with all types of Building Construction. Also experienced in making Engineering Estimates for Engineers. References, address E. Harold Bowen, 1108 E. Belvedere Ave., Baltimore 12, Md.

WANTED—SUPERVISORY position with large Contracting firm, specializing in heavy grading work and other types of heavy engineering work. Am closing down my contracting business this Fall. Have had eight years self-employed experience in heavy grading work, specializing in Levee Construction and Roadwork. Will travel anywhere, foreign fields incl. Do own survey and engineer work. Ex. Lt. Colonel, Corp. of Engr. Age 37, married, children. PW-8594, Engineering News-Record.

ADMINISTRATIVE ARCHITECT, 25 years experience, graduate, degree, registered. PW-8561, Engineering News-Record.

CONSTRUCTION SUPERINTENDENT & Engineer. Thirty years experience planning and supervising heavy construction. Experienced: Earth Work; in dams, highways, reclamation; Conc.; in bridges, warehouse tilt-up walls, paving and airport; Foundations; piling and cofferdams. Address PW-8684, Engineering News-Record.

ASPHALT SUPT. or Foreman familiar with hot plant mixtures, Asphaltic concrete binders & Sheet top. Twenty years experience. Available at once, salary open. PW-8678, Engineering News-Record.

(Continued on the following page)

SALARIED POSITIONS $3,500—$35,000

We offer the original personal employment service (established 43 years.) Procedure of highest ethical standards is individualized to your personal requirements. Identity covered; present position protected. Ask for particulars.

R. W. BIXBY, Inc., 272 Dun Bldg., Buffalo 2, N. Y.

TOOL DESIGN

SUPERVISOR

Man capable of assuming complete charge of Tool Design Dept. and development of designers in lower classifications.

MECHANICAL ENGINEERS

Graduate or equivalent experience.

MANUFACTURING ENGINEERS

Fabrication & machining experience.

These are permanent openings with one of America's oldest and largest Mfg. Concerns. Salaries open. Give complete record of experience, education, age and salary requirements in first letter. Address G. R. Carmack Supervisor of Employment.

WESTINGHOUSE
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BOX 288 KANSAS CITY, MISSOURI

DEALERSHIPS AVAILABLE

Choice territories available for responsible dealers interested in handling a new low cost membrane curing compound that by actual test has met and surpassed every known specification. Inquiries from abroad especially invited.

RW-8698, Engineering News-Record
330 W. 42 St., New York 36, N. Y.

WANTED

Resident Manager

Overseas
(Pacific)

Must be capable of handling all phases of construction on a complex project. Administrative ability in operation procedures, methods & control reports. Complete management of project during Project Manager's absence.

Forward complete resume and starting salary desired. Replies held in strict confidence. Box P-8503, Engineering News-Record 1111 Wilshire Blvd., Los Angeles 17, Calif.

CONSTRUCTION MEN

Superintendents
Engineer-Estimator
Concrete Foremen
Brick Mason Foremen
Carpentry Foreman

By well established New York General Contractor, operating in New York City, Albany and Newark areas. Public and Private Building Work: Army and Navy Work; Reinforced Concrete Construction. Please give outline of exp., age, education, refs., salary expected and when available. Only thoroughly qualified applicants considered.

P-8730, Engineering News-Record
330 W. 42 St., New York 36, N. Y.

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AND
DESIGNERS

With experience applicable to Oil Refinery, Blast Furnace or Steel Plant Design.

Openings available at our Cleveland, Ohio offices for:

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Structural Designers
Concrete Designers
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These openings offer:

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Permanent Positions
Overtime—45 hour week
No Age Limitations

Write, giving complete background and experience to:

ARTHUR G. McKEE & CO.
2300 Chester Ave.
CLEVELAND 1, OHIO

ESTIMATORS

Fully experienced in industrial and commercial buildings and mechanical installations (machinery, equipment, piping, etc.)

These openings in Cleveland Office offer excellent working conditions with paid vacations, sick leave and participating group insurance program. Presently working scheduled 5 day 45 hour work week.

Replies will be treated confidential and arrangements will be made to interview selected applicants. Please submit complete resume stating experience, education, salary required and date available to

THE H. K. FERGUSON COMPANY
Engineers and Builders
Ferguson Building Cleveland 14, Ohio

STRUCTURAL ENGINEERS

To do bridge designing for a $7,000,000 bridge construction program. Beginning salary for positions are $5100 and $5900 ranging to $6500.

For details and application blank, write

CITY SERVICE COMMISSION
City Hall Milwaukee, Wis.

POSITIONS WANTED

(Continued from preceding page)

DUTCH CIVIL Engineer B.S. married, 25. 2 years foreign experience as field engineer with American Oil Company. Desires position anywhere in U. S. or foreign. Available February, 1954. PW-8633, Engineering News-Record.

ESTIMATOR, HEAVY Construction, extensive experience foundations, dams, tunnels, earthwork, bridges. Desires responsible connection Metropolitan New York City contractor. PW-8661, Engineering News-Record.

ENERGETIC CIVIL—Structural Engineer, age 39, experienced design and construction, seeks opportunity leading to participation in reputable consulting firm. Permanent association and substantial compensation important. Eastern states preferred. Correspondence invited. PW-8669, Engineering News-Record.

CIVIL ENGINEER I. Over four years field experience in Road Construction and bridges. Complete knowledge of asphalt and concrete material analysis and field inspection. PW-8666, Engineering News-Record.

STEEL ERECTION—CE 31, married, children, 6 years with erection dept. of major steel company. Experience includes buildings, plant work, all types of welded structures, shop, drawing room, erection engineering. Desire position with smaller firm engaged in structural erection. PW-8650, Engineering News-Record.

STRUCTURAL DESIGNER, age 33, eight years steel, concrete and pressure vessel experience, desires sales engineering position offering opportunity and responsibility. PW-8680, Engineering News-Record.

ENGINEER REGISTERED P.E. Years of experience as executive and supervision of every type of commercial and industrial, and government construction. Prefer West of S.W. States. PW-8689, Engineering News-Record.

GENERAL SUPT. 25 yrs extensive experience in heavy construction blasting hard rock—earth moving & concrete. PW-8732, Engineering News-Record.

CIVIL ENGINEER 38, B.S. and M.S., 14 years experience on heavy construction as soils and materials engineer. Dams, levees, foundations, airfields. Design, plans, specifications, estimates, testing, supervision. Desires to locate with smaller consulting firm in position leading to partnership. Available 15 Oct. PW-8729, Engineering News-Record.

IN CHICAGO Graduate Civil Engineer, 28, desires position involving engineering, business, and initiative. Five years' design, construction, and busines experience. Available immediately. PW-8710, Engineering News-Record, 520 N. Michigan Ave., Chicago, Ill.

CIVIL ENGINEER, graduate, age 25, married, 2 children. Recently released from active duty as a Marine Officer. 2 years experience in all phases of Military Construction. Desires position with contractor or consulting firm in Midwest. Available October 1. PW-8718, Engineering News-Record.

PROJECT MANAGER or General Supt. Age 45, graduate civil engineer, last twelve years Gen'l Supt. Highway & turnpike construction, grading, drainage, bridges, paving, including air base and Hydro Electric Dams, with Appurtenance structures. Prefer work in Ohio, New York, New Jersey or Penna. Thoroughly experienced. Cost conscious, excellent references. Presently employed. Available August first. PW-8691, Engineering News-Record.

SELLING OPPORTUNITY WANTED

SALES ENGINEER—Broad technical and commercial background and acquaintance with government construction program. Fifteen years experience promoting and selling construction systems, installations and service. SA-8682, Engineering News-Record.

BUSINESS OPPORTUNITY

Engineer seeks partner to establish general construction business or consider partnership in existing firm. BO-8738, Engineering News-Record.

Engineers—Foremen—Office Men

Learn latest methods to organize and run work. Prepare for the top jobs.

Send post card for details.

GEO. E. DEATHERAGE & SON
CONSTRUCTION CONSULTANTS
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STRUCTURAL ENGINEERING
ARCHITECTURAL ENGINEERING

OUR COURSES of instruction by mail HAVE HELPED THOUSANDS to better positions and to pass State Board Examinations. *Forty third year*

Write today—without obligation

WILSON *Engineering Corp.*
College House Offices HARVARD SQ., CAMBRIDGE, MASS.

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- 2—Hopper Dredge Self-propelled
- 1—30" Steel Hull Diesel Dredge
- 1—22" Steel Hull Diesel Dredge
- 1—16" Steel Hull Diesel Dredge
- 1—12" Steel Hull Diesel Dredge Portable
- 1—20" Steel Hull Steam Dredge
- 1—20" New Dredge Pump
- 1—20" 90% New Dredge Pump Extra Parts
- 2—New Spuds 65' Long, 27" Dia. 1¼" Steel Plate
- 1—Used Spud 44' Long, 24" Dia. 1¼" Steel Plate
- 1—5-Drum Dredge Hoist, 7500 S.L. Pull
- 1—3½ Cu. Yd. Hard Digging Clam Shell Bucket
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Practically all models
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100,000 sq. ft. Used "Uniform" Panels

Assorted Sizes—Reasonably Good Condition

SOUTHEASTERN-LOVING-DOYLE AND RUSSELL
Fort Knox, Kentucky

TENDER OR WORK BOAT
Length 40', Beam 11'
Wooden Hull and Cabin

141 H.P. Chrysler Marine Engine, 6½ Reduction Gear. Located: Atlantic City, N. J.

OLE HANSEN & SONS, INC.
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WANTED

WANTED

COMPLETE AUTOMATIC BATCHING & READY MIX PLANT

2 to 4 yard capacity. Current model—not over 3 years old. Price Right.

W-8713, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

WANTED

late model 1 and ½ yard diesel CRANE or DRAGLINE

Priced reasonable

W-8716, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

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- 1952 Link Belt 1 yd. self-propelled crane on Maxie Chassis.
- 1949 Northwest Model 25 self-propelled crane #11484 on Maxie Chassis.
- Northwest Model 25 #10528 crane—dragline.
- General ¾ yd. #2534 Crane & Backhoe.
- 1951 Hydra Hammar, self-propelled.
- 1951 Tri-line Concrete cutting saw with 14" diamond blades.
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- 1951 McKiernan-Terry Model 5 Pile Hammar.
- Approximately 1800 l.f. MP-101 Steel Sheet Piling, 24 ft. lengths.
- Approx. 2000 l.f. Armco 3 gage flange type Steel Sheet Piling, 20 ft. lengths.
- A number of caterpillar tread wagons, Euclid rubber tired tractor wagons, Tractors with scrappers, 2" to 6" motor driven pumps, 105 to 315 c.f. Air compressors & misc. small equipment.

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2 Model 80-1 Cleveland Backfiller, Tamper and Side Crane. Slightly used.

2 Model Y512, 12 Yd. Freuhauf End Dump Trailers.

THE FOUR COMPANIES
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Late Model 4, 70 ft. crane boom, and 1 yard dragline bucket, and 1½ yard dipper stick attachment, complete $3350.00.

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FOR SALE

1—80D Northwest 2½ yd. shovel S.N. 8906
1—56 F.D. Euclid Rear Dump S.N. 8893

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One Northwest Model 6 Shovel, Crane & Backhoe. Good as new.

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KIlpatrick 2-5300

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SPECIALIZING TO CONTRACTORS NEEDS

DIESEL GENERATING SET

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Used to operate a stone fabricating mill. 2-75 H.P. D 11000 Caterpillar Power Units. Tandem "U" Belt Drive to a 100 K. W. Generator. Price $3,000.00. Will sell separately, if desired.

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Frantz

GIVES CONDITION AND PRICE OF GOOD USED EQUIPMENT

CATERPILLAR RD6 with Southwest Cable Dozer.
Working Condition $2,000

ALLIS CHALMERS HD5B with Baker Hydraulic Angledozer.
Rebuilt and Guaranteed $5,000

ALLIS CHALMERS model HD5B with Baker hydraulic bulldozer.
Rebuilt and Guaranteed $6,200

KOEHRING model 205 Cruiser crane (½ c.y.) with Chrysler gas engine and 40′ boom; hydraulic steering; one man controls.
Rebuilt and Guaranteed $12,000

ALLIS CHALMERS model AD 4 motor grader. G.M. diesel 12:00 x 24 tires.
Guaranteed 80% New $8,500

ALLIS CHALMERS HD 20G 4 c.y. front end loader. New 1952.
Good Operating Condition $20,000

4 WOOLDRIDGE TERRA COBRAS with Cummins diesels; 21:00 x 24-24 ply tires
Very Good Condition Including Rubber. A Bargain . . . . $11,000 ea.

10 LE TOURNEAU SUPER C TOURNAPULLS with LP Scrapers & or W210 Rock Wagons, Cummins Diesels, 21:00 x 24 tires.
Good to Excellent Condition . $5000-6000 ea.

INTERNATIONAL TD9 with Bucyrus Erie Angledozer.
Good Condition but needs motor overhaul $2500

GALION TRENCH ROLLER with Wisconsin gas engine and hydraulic steering.
Used Less Than One Month! $4,100

ALLIS CHALMERS HD 19 with Carco cable bulldozer and front mounted winch.
Rebuilt Guaranteed $13,500

ALLIS CHALMERS HD9G tractor with Tractomotive 2 cy. front end loader.
Rebuilt and Guaranteed $14,500

REX PUMPCRETE model 200 W. Double cylinder; agitator hopper with separate engine drive—mounted on top of machine. Several hundred feet 8″ pipe & all fittings necessary to go right to work included.
Excellent condition, used on one small job $13,000

EUCLID LOADER model 9 BV with G.M. diesel and hitch for HD-20 tractor. Present belt, new belt & spare parts included. This machine has moved less than 350,000 cy. of material.
Excellent Condition—Ready for Work $22,500

COMPLETE PAVING SPREAD: 34 E Dual Drum Pavers, Blaw Knox Spreaders, Finishers, Sub-Graders, Koehring Longitudinal Finishers. Equipment for 10 to 15 foot and 25 foot widths, and 7″-8″-9″-10″ Blaw Knox Forms. Will sell or rent above individually or as a unit.

Equipment in Excellent Condition and Ready to Work.

Subject to Prior Sale or Other Disposition **For complete list contact JOHN A. HUNTER**

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Frantz

45 Rockefeller Plaza, New York 20, N. Y.
PLaza 7-3890

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better than 80% NEW at LESS than ½ PRICE

LAPLANT CHOATE TS300 MOTOR SCRAPERS

As CATERPILLAR DEALERS in New York State, we took in trade seven 1951 and 1952 LaPlant Choate TS300 Motor Scrapers. We are replacing cutting edges, installing new batteries where needed, replacing rubber where required and any other necessary repairs. Nothing requiring attention is being left untouched. These units are priced at **$15,000.00** each. Let us talk business with you on one, two or as many as you require. Your inspection is invited and we are sure, that, if you are interested in earth moving equipment of this type, these units will be well worth your consideration.

Syracuse Supply COMPANY

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PHONE: 4-3157

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New and Used material—Immediate delivery from stock Angles, Channels, I and WF Beams, especially for Contractors needs

H BEAMS PILE SECTIONS

28 PIECES 12" BPS 53 LB. 60/70 FT.

Phone or Wire your steel requirements

We are also interested in purchasing your surplus material.
We assure you our prices will be the best obtainable.

HY DRACHMAN STEEL CORP.

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Astoria, New York
AStoria 8-4484 8-8023

Sales Office
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New York City, N. Y.
CYpress 9-5440

LOCOMOTIVES AND CARS

24 Magor 30 yd. steel air dump cars. Drop door type. Built 1951. Like new.

15 Western & Koppel steel air dump cars. Lift door type. 30 yd. capacity.

4 GE Diesel-elec. locomotives. 44 ton. Cat D17000 engs. New 1951. Like new.

4 GE Diesel-elec. locomotives. 25 ton. Cummins 150 HP engs. New 1950.

Mississippi Valley Equipment Co.
509 Locust St. St. Louis 1, Mo.

Lorain L 50 2 yr. old diesel, crane and drag
Buc. Erie Shovel or Drag 38B Diesel
Northwest 25-80 D—No 6
LeTourneau Super C-A1 $4800.00 each
Trenchers Cleveland Model 92-95-110-140-320
LeTourneau 6 yd cable scraper
Cat. No 12 serial 8T 1400 Price $4500.00
Buckeye C15 Trencher Parsons 310, 250 and 25
Several Scrapers Available

AIR COMPRESSOR RENTAL CO.
19615 Nottingham Road Cleveland, Ohio
***Tele* Kenmore 1-8000**

DEPENDABLE USED MACHINES

Special:—Huber 5-8 ton tandem roller, new in 1947, reconditioned in our shop. Come see it!

Lorain 30; 22" shoes
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P&H ½ yd. crane
Butler fork truck
3 yd. Dumpcrete
Bay City 20 ton truck crane
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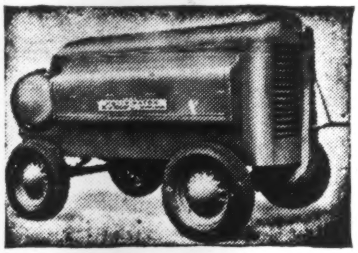
For rent,—cranes, draglines, backhoes, buckets, and all other accessories.

10002 Southwest Highway TRACTOR & EQUIPMENT CO. Oak Lawn, Ill.

CAN'T BEAT THIS TEN MORE PORTABLE COMPRESSORS AT YOUR PRICE



60 CFM INGERSOLL (Gas) SKIDS— $675
105 CFM WORTHINGTON (Gas) 4P—$1900
105 CFM INGERSOLL (Gas) 4P—$1900
105 CFM WORTHINGTON (Gas) 2P—$2600
105 CFM WORTHINGTON (Gas) 4P—$2700
160 CFM—WORTHINGTON (Gas) 4P—$2300
160 CFM—WORTHINGTON (Gas) 4P—$2500
210 CFM WORTHINGTON (Gas) 4P—$2400
315 CFM WORTHINGTON (Diesel) 4P—$3300
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DRAGLINE attachment for the above Marion shovel, 90' boom, 8½ yd. Hendrix drag bucket, LOCATION: Pickstown, South Dakota.

MARION walking dragline model 7200, diesel-electric, Ward-Leonard control, 120' boom, 8½ yd. Hendrix drag bucket, drag and hoist power Cleveland diesel, all driving and generators are GE, S/N 9072, machine new in 1949 and used just 2 seasons, LOCATION: Crofton, Nebraska.

MARION dragline model 111-M w/Cummins L-6 diesel engine, 90' boom, 5 yd. Hendrix bucket, light plant, S/N 8299, major overhauled in 1953, LOCATION: Crofton, Nebraska.

MARION dragline model 111-M w/GM twin 6-71 diesel engine, electric swing, 70' boom, 5½ yd. Hendrix drag bucket and 90' boom w/4 yd. Hendrix bucket, light plant, S/N 8606, major overhauled in 1952, LOCATION: Pickstown, South Dakota.

SHOVEL attachments for the 2 Marion model 111-M drags, 3½ yd. dippers w/spare 4¼ yd. Esco dipper. LOCATION: Kansas City, Missouri.

BUCYRUS-ERIE model 54-B combination shovel and dragline, 50' drag boom, Buda diesel engine, light plant, S/N 69835, LOCATION: Crofton, Nebraska.

NORTHWEST model 95 dragline, S/N 13498, w/Murphy diesel and standard 60' boom w/2 - 10' extensions, major overhaul in 1953, LOCATION: Crofton, Nebraska.

BUCYRUS-ERIE model 51-B combination shovel and dragline, 2 yd. S/N 45174, w/Cat D-17000 engine, wide crawlers, 70' boom, light plant, machine rebuilt in March 1953. LOCATION: Wichita, Kansas.

FOUR KOEHRING model 605 combination dragline and clamshell machines, S/N's C-4999, C-5085, C-5195 and C-5273, 50' standard boom w/2 - 10' extensions, Cat D-13000 engine, Kohler light plant, high gantry and long-wide crawlers, LOCATIONS: One at Crofton, Nebraska, one at Wichita, Kansas, and two at Albuquerque, New Mexico.

PULL SHOVEL attachment for Koehring 605 above, 1½ yd. dipper, LOCATION: Wichita, Kansas.

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2 **KOEHRING** Model LF longitudinal floats, 20 to 25', LOCATIONS: One Topeka, one Wichita.

2 **MULTIFOOTE** pavers, Model 34-E dual drum w/GM 6071 diesel engines, aux. water tank, 3" pump, used less than 400 hours, S/N's 46-D-512 and 46-D-515, LOCATION: Topeka, Kansas.

2 **KOEHRING** pavers, model 34-E dual drum, diesel power, S/N's 19926 and 17553, LOCATION: Topeka, Kansas.

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15 **EUCLID BOTTOM DUMPS**, Model FDT, 15 yd. capacity, GM 200 hp diesel, Fuller transmissions drivers cabs and trailer sideboards, S/N's 4688, 4690, 4691, 4778, 4779, 5004, 5005, 5006, 5029, 5030, 5048, 5114, 5148, 5149, 5150, 5151, 6777 and 6779, LOCATION: Wichita, Kansas.

11 **MACK REAR DUMP TRUCKS**, Model LRSW, Buda 350 hp diesel, 32 ton capacity, sideboards, 1400x24 fronts, 1600x24 rear duals, currently installing new Cummins diesel 300 hp engines, LOCATION: Crofton, Nebraska.

LeTOURNEAU TOURNAPULL Super C w/LP scraper, Cummins 150 hp engine, 12 yd. cap., LOCATION: Topeka, Kansas.

11 **CATERPILLAR** DW-20's, 1951 models, power steering, 3 yd. top extensions, S/N's 11C6, 11C3, 11C8, 11C7, 11C11, 21C21, 21C22, 21C23, 21C25, 21C26 and 21C27, LOCATIONS: 7 at Wichita, Kansas, 2 at Crofton, Nebraska, 2 at Albuquerque, New Mexico.

5 **EUCLID** Model 8TDT-14SH motor scrapers, year 1951, Cummins diesel, power steering, Fuller transmissions, 3 yd. extensions, S/N's 12220, 12221, 12222, 12223 and 12224, LOCATION: Crofton, Nebraska.

LeTOURNEAU Model G Scraper, 6 yd., S/N S6134, LOCATION: Albuquerque, New Mexico.

TRACTORS & MOTOR GRADERS

SIX CATERPILLAR D-8 tractors, S/N's 2U 6196, 2U 6892, 2U 7283, 2U 10366, 2U 10395 and 2U 10396, w/Cat 8A dozers and Cat No. 25 DDPCU's, pan guards, lower roller guards and lights, LOCATIONS: One at Pickstown, South Dakota, three at Ft. Pierre, South Dakota, and two at Crofton, Nebraska.

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GARDNER-DENVER Model WBK500 compressor w/Cat D-13000 engine, mounted 4 tires, S/N 110396, LOCATION: Topeka, Kansas.

CHICAGO-PNEUMATIC Model PO-8 compressor w/Cat D13000 engine, mounted on 4 tires, S/N 42909, LOCATION: Wichita, Kansas.

15 **DUMP CARS**, 5 yd., side opening, 36" gauge, 50" wheel base, LOCATION: Jenkins, Kentucky.

CONWAY No. 75 mucker w/75 hp 220/440 volt motor, 8½' boom, ⅝ yd. bucket, LOCATION: Pickstown, South Dakota.

McKEEMAN TERRY No. 7 steam pile w/leads, S/N 8317, LOCATION: Pickstown, South Dakota.

15 **GARDNER-DENVER** Model CF 99 drifters, LOCATION: Kansas City, Missouri.

MASSCO Model 38 bit grinder, Continental power, S/N 554, LOCATION: Pickstown, South Dakota.

2 **INGERSOLL-RAND** type FS blowers, GE motors, 100 hp., 2400 volt, 3 phase, 60 cycle, single stage 7500 CF mat 2 lbs, LOCATION: Kansas City, Missouri.

2 **SPERRY** Gyroscope search lights, 60", portable, Model 1941A, LOCATION: Pierre, South Dakota.

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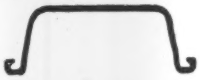

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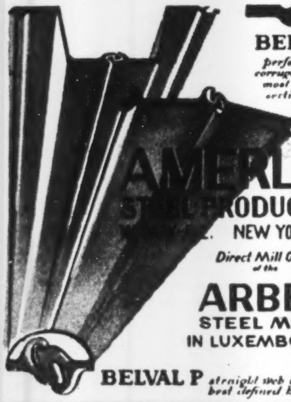

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MARION 43-M

A one-yard bucket, on a 50-foot boom, makes the MARION 43-M a profitably handy machine for Fred J. Fugate, Quincy, Florida, contractor.

This dragline has been dipping into the development of the Naples area where sound planning simultaneously opens beautiful lakes and provides filler for low areas.

With more than two years' service to its credit, the 43-M has had such assignments as recovering oyster shells and marl from Horse Creek for use in street building.

Pleased by the dependability of the 43-M, its easily-operated air controls and its consistently big production, Mr. Fugate says, "I never saw a one-yard machine that will compare with it." Why not let your nearest MARION representative tell you more about the features that Mr. Fugate likes so well.

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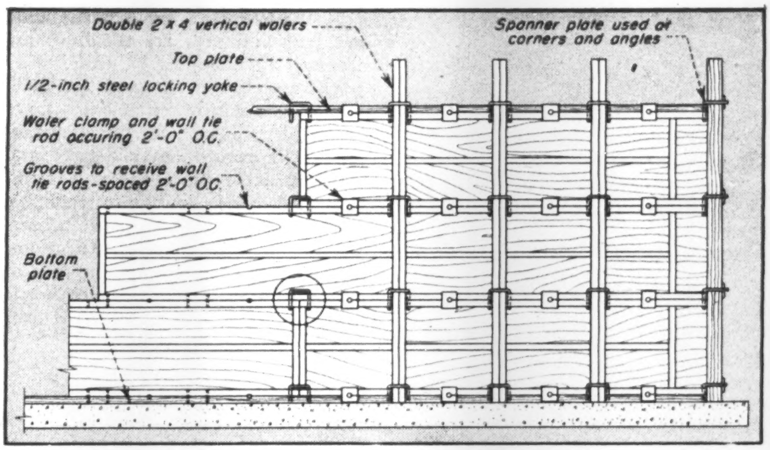

Double 2 x 4 vertical walers
Spanner plate used at corners and angles
Top plate
1/2-inch steel locking yoke
Waler clamp and wall tie rod occuring 2'-0" O.C.
Grooves to receive wall tie rods-spaced 2'-0" O.C.
Bottom plate

HORIZONTAL WALERS are unnecessary in the module system. Staggered arrangement and panel framing provide a continuous double 2 x 4 waler every two feet of height of the forms.

Concrete forming costs cut

Forty per cent savings reported by Oak Ridge contractors using new module form system

Several contractors in the Oak Ridge, Tenn. area have tested Hart module concrete forms and report good results with the system. Moreover, average cost savings of 40 per cent and twenty usages without appreciable wear are claimed.

The panels used in the system are fabricated of ¾-in. plywood, plastic coated or plain, and 2 x 4 fir framing. All the holes required are predrilled on template tables to provide accurate spacing and eliminate much of the job-site refabrication.

The form system is built on an integral of two feet; therefore the panels are two feet wide and come in lengths of two, four and eight feet. There are no "tops" or "bottoms", "rights" or "lefts" and the panels are designed to member both horizontally and vertically. They can thus be installed in either direction.

Grooves cut across the edges of the panels to receive the wall tie rods occur on two-foot centers intermediate of the locking yoke holes. It is thought that since the tie rods are evenly spaced, equal pressure will be exerted on each rod during pouring, thereby avoiding a wavy wall. Predrilling of holes and grooves also eliminates boring of holes on the job and plugging for reuse.

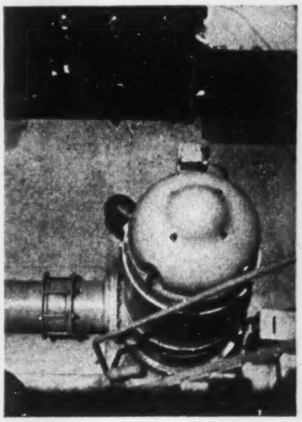
Hardware consists of wall tie rods, steel locking clamps and waler clamps. The 2 x 4 frame members have a series of bushed holes to receive the legs of the ½-in. steel locking yokes. The legs of these yokes are long enough to lock double 2 x 4 vertical walers or strongbacks to the panels directly in front of all panel joints and likewise on two-foot centers. The waler clamps serve a dual purpose in holding panel frames together and acting as striking plates for ends of the wall tie rods.

Erection of the panels is started on a foundation plate made up of 2 x 4's having a series of holes and grooves corresponding with those in the panels. The first row of wall tie rods is thus placed 1⅝ in. from the concrete footing.

The panels are erected horizontally with end joints staggered in each course of panels erected. Standard size panels can be erected at starting corners and extended for any length to within two feet or less of the opposite corner. If the remaining distance is less than two feet, it will be necessary to refabricate one two-foot panel. At no time is it necessary to refabricate the longer lengths of panel. Should an odd sized panel whose length is not a multiple of two feet be introduced to the system the entire arrangement is destroyed and the module system cannot be completed.

Additional horizontal walers are unnecessary since the design of the panels and the staggered arrangement provide a double 2 x 4 horizontal waler

Critical Jobs are routine for Johnston!



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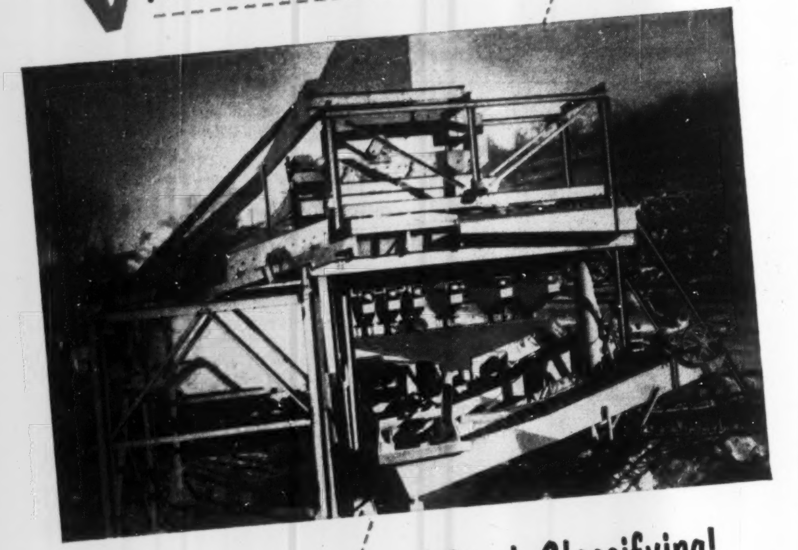

on Sand Classifying!

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every two feet of the height of the forms.

No nails, spikes or bolts are used and bars and prys are therefore unnecessary for stripping.

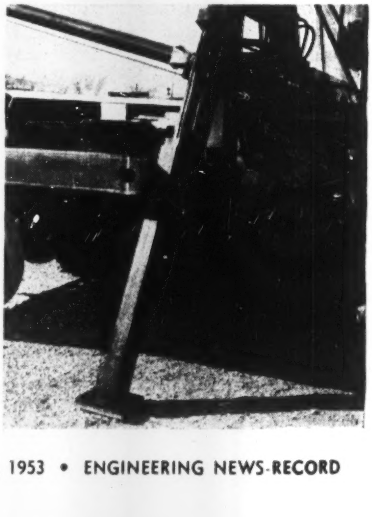
The panels and hardware are available on a monthly rental basis, f.o.b. Oak Ridge, Tenn.; or the manufacturer will furnish metal parts and template table on a monthly basis, f.o.b. Oak Ridge, and permit contractors to fabricate the panels according to manufacturers' specifications. Neither deal includes wall tie rods or vertical liners. HART MODULE FORM CO., P. O. BOX 137, OAK RIDGE, TENN.

Hydraulic outriggers add safety factor

On many lifting jobs where the crane must be moved frequently, it is often a temptation—especially when the lowering of outriggers poses considerable difficulty—to get by on "border-line" loads without bracing the equipment. The results are often dangerous and sometimes disastrous.

Hydraulically operated outriggers are now available as optional equipment on the Model "B" Pitman Hydra-Lift truck-mounted crane. With this arrangement the operator can raise and lower the outrigger legs simply by manipulating controls at his regular station.

Not only do the hydraulic outriggers provide a safety factor, but they are reported to speed up jobs where outriggers must be used frequently, such as pipe stringing and pulling paving forms. Also, if the truck on which the Hydra-Lift is mounted is on uneven ground, the operator can use the outriggers to level the truck before picking up the load. PITMAN MFG. CO., 300 W. 79TH ST. TERR., KANSAS CITY 14, MO.



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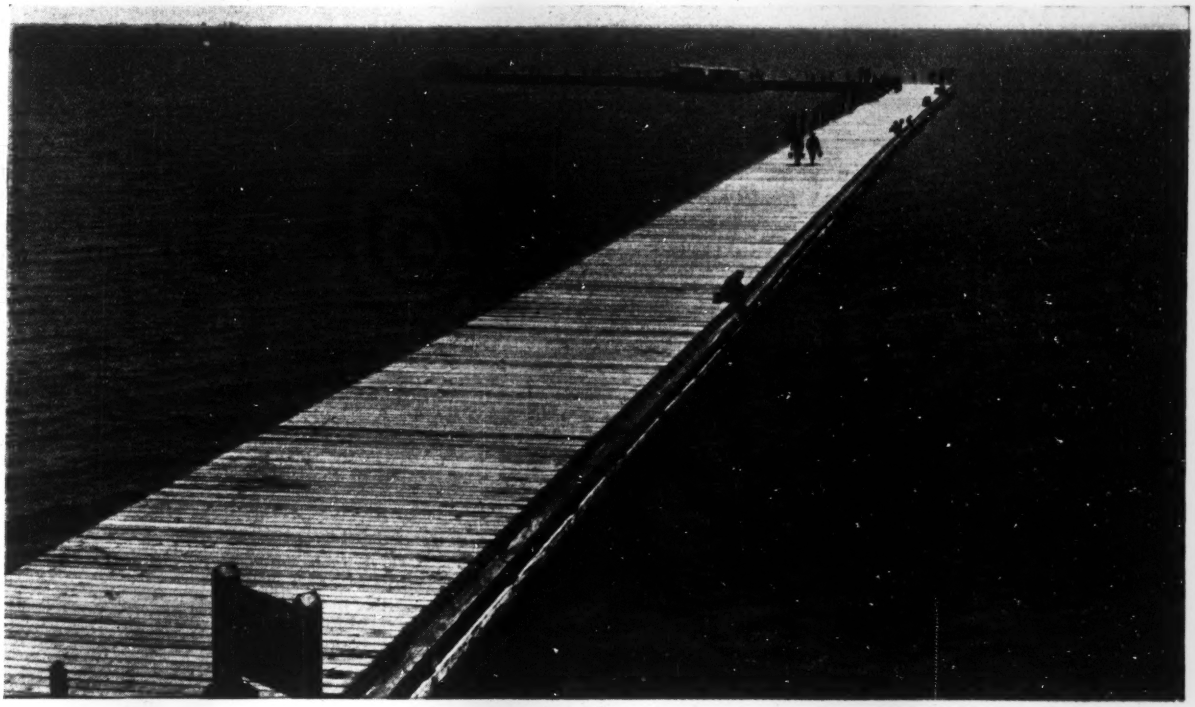

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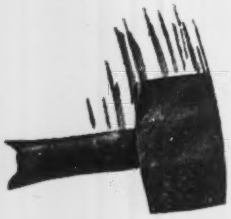

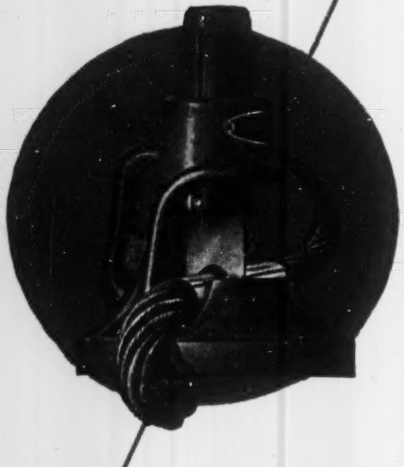

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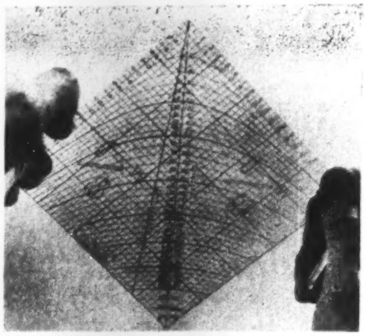

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Areas and volumes can be quickly obtained from maps and building plans with a new one-piece space scale printed on rigid vinyl sheet.

The square sheet is diagonally divided so that it may be used to measure areas on plans scaled to $\frac{1}{4}$ and $\frac{1}{8}$ in. to the ft. A conversion table is provided for reading from other scales. Odd shaped areas are divided into rectangular or circular figures easy to measure by applying the space scale.

When the "zero" corner of the space scale (top corner in picture) is placed on the upper left corner of a rectangle, the area equals the number on the curve cutting the lower right corner of the rectangle. To obtain circular areas an offset diagonal is used. Interpolation is used where points fall between curve or grid lines. Volumes are calculated by using the scale to multiply area by the third dimension. New Era Products, 6 Peter Cooper Rd., New York 10, N. Y.

New Products briefs . . .

• **Small parts cabinets**—Production of all-steel small parts cabinets is announced by the Precision Equipment Company, 3714 Milwaukee Avenue, Chicago 41, Ill. Little Gem, as they are called, consists of two $1\frac{1}{2}$-in. high drawers in a rugged one-piece welded frame. Overall size is $3\frac{1}{4}$ in. high x 11 in. deep x 11 in. wide. Each drawer is furnished with eight dividers, giving the cabinet a total of 24 adjustable compartments.

• **Glass drill**—A new spear point type carbide drill, designed for producing better holes in glass, is available in a complete range of sizes from Super Tool Company, 21650 Hoover Road, Detroit 13, Mich. According to the company, free-cutting design and ample carbide tip insures cooler cutting, less breakage of glass and greatly increased tool life.

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PUBLICATIONS

Welding film—A color strip film titled "Better, Faster, Cheaper with Welding", features actual case histories where savings have been made through the use of proper welding techniques. Sound accompaniment describes the various jobs pictured and explains the advanced welding methods shown on the screen in photos and diagrams. Technical Information Service, Dept. P, Eutectic Welding Alloys Corporation, 172nd St. and Northern Blvd., Flushing 58, N. Y.

Proper electrodes—A 50-page pocket guide presenting 30 different electrodes describes as to chemical analysis, procedure for welding and application. Included are sections on "Picking the right electrode", mechanical properties, electrode testing and AWS-ASTM specifications. Write for Form ABC 650, Air Reduction Sales Company, 60 East 42nd Street, New York 17, N. Y.

Hydraulic equipment—A new catalog covers the complete line of oil hydraulic equipment for mobile applications. Catalog M-5101 provides latest specification and engineering information on Vickers hydraulic vane-type pumps and motors, valves, power steering pumps and steering boosters, and other oil hydraulic units designed for equipment in the construction machinery and mining industries. M. J. Taup, Manager, Mobile Products Sales, Vickers Incorporated, 1496 Oakman Boulevard, Detroit 32, Michigan.

Store fronts and building entrances—"Stainless Steels for Store Fronts and Building Entrances" is the title of a 40-page booklet that describes the use of stainless steel for these architectural uses. Included are design and application data, together with methods of constructing stainless steel components. Committee of Stainless Steel Producers, American Iron and Steel Institute, 350 Fifth Avenue, New York 1, N. Y.

Welding equipment—Three basic alternating current welding machines and their accessories are appraised in a new 17-page booklet. Electrical specifications, physical dimensions, and weights of the various models are given, and special characteristics such as built-in power factor correction are described in detail. Booklet B-5622. Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa.

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EDITORIALS

Second half prospects

THE FIRST SIX MONTHS of this construction year witnessed such an outpouring of contracts that the total volume of heavy construction is now nearly 18% ahead of the comparable period in record-breaking 1952. This augurs well for the full year, although such a pace can hardly be maintained. In the first place the biggest contract letting period in 1952 was during the last half, when there was a big assist from Atomic Energy Commission jobs. No such jobs are in prospect now. Moreover, because of growing competition, bid prices are tending lower. Federal economy moves will also affect public works on the downside.

As against these limiting conditions, however, there are too many favorable factors to warrant anything but optimism. Industrial building continues good, commercial building is booming, highways and sanitation are ahead of last year. And housing should chalk up another million new starts. With all the probable cost increases behind us, financing money still available and the needs and desires for construction mounting, second half prospects are decidedly good. ENR's last February estimate was that the heavy construction total would be no more than 4% under the 1952 record. It still mirrors the prospects.

Professional statesmanship needed

AN UNFORTUNATE state of tension has developed between elements of the engineering profession that calls for skillful statesmanship if it is not to result in open factional fights that will bring nothing but discredit on all concerned.

The trouble began early this year when Engineers Joint Council, having decided to incorporate in New York State because of its expanding activities, discovered that it could not do so without a special act of the legislature or an amendment to the state license law for engineers. The latter law specifies that no corporation shall "use or assume a name involving the word engineers or engineering . . . except a non-profit membership corporation composed exclusively of professional engineers." As many members of the organizations making up EJC are not registered as professional engineers, a literal application of that provision would keep EJC from incorporating in New York State. Hence EJC sought to have the license law amended to exempt a "non-profit membership corporation organized for the advancement of science and the profession of engineering and not engaged or authorized to engage in the practice of professional engineering."

Although EJC advised the New York State Society of Professional Engineers of its proposal and sought its cooperation in getting the license law amended, the state society blocked passage of the amendment shortly before the legislature adjourned by sending to each member of the legislature a telegram which characterized the proposed amendment as "a bold invasion of our learned profession by non-professional out-of-state groups seeking to dominate the engineering profession in New York State." The telegram also stated that "no legitimate reason exists for use of the word engineers in the title of this corporation."

THOSE STATEMENTS were resented by men active in the affairs of EJC and who believe that it is rendering a useful service to the engineering profession. An immediate reaction developed in Oregon where a second attempt was being made to have the Professional Engineers of Oregon affiliate with the National Society of Professional Engineers. There, the statements concerning EJC made by the New York state society—which is an influential member of NSPE—were used as an argument against affiliation of the Oregon society with NSPE.

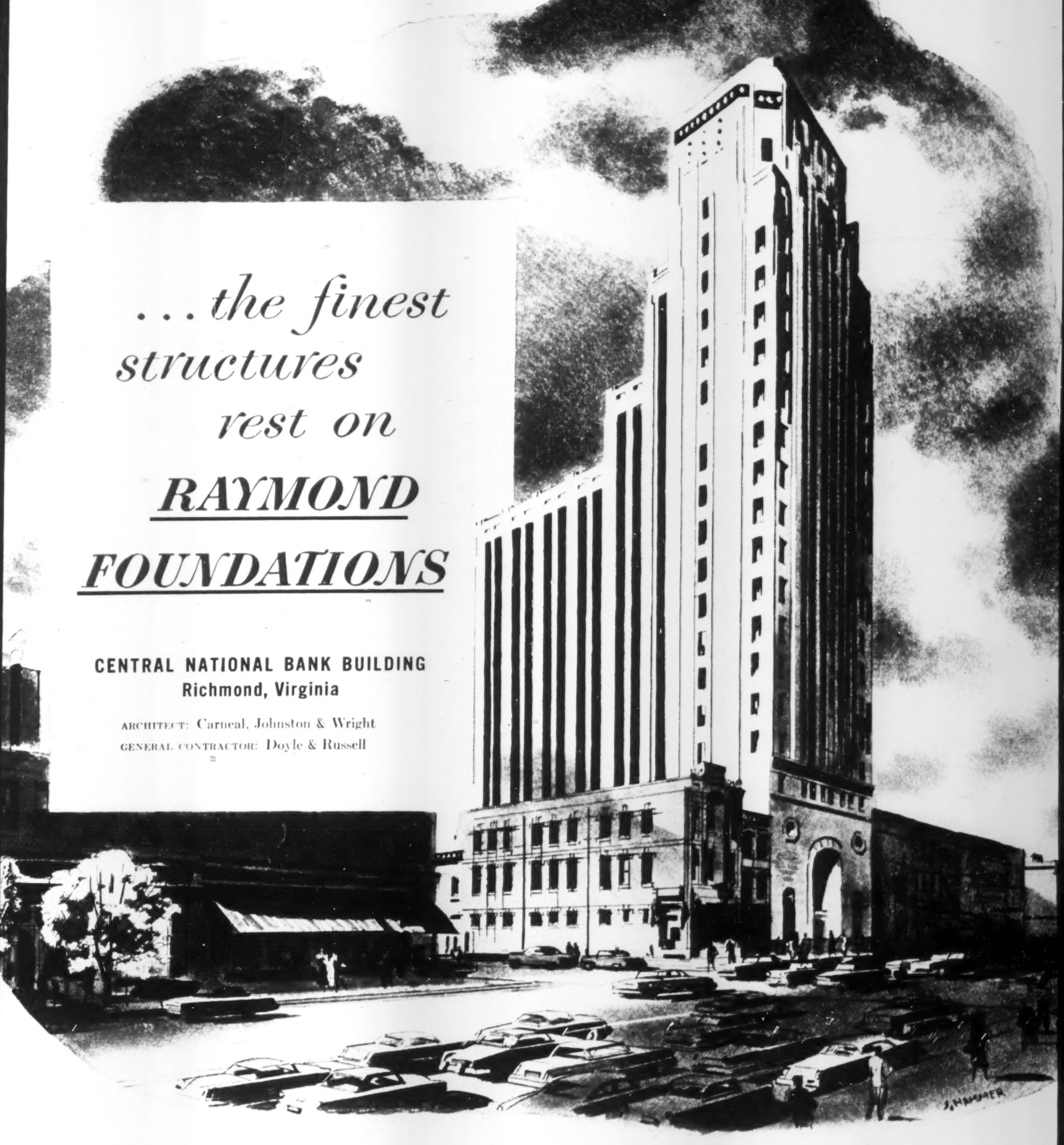
By coincidence some of the professional engineers in Oregon who opposed the affiliation were or had been officers in the American Society of Civil Engineers, which gave their action the appearance of being sponsored by the ASCE. This coincidence was the subject of comment at the recent NSPE annual meeting in Florida.

Obviously, a serious intersociety conflict, which will nullify recent good progress toward greater professional unity, can grow out of these happenings. At the moment it would appear that the best place to stop spread of the trouble lies in New York State where efforts to incorporate EJC will be renewed next January.

The action taken last March by the New York state society was one of those hasty things done in the heat of a legislative fight. Tempers in that society already had been raised by an independent attempt to amend the engineer license law to permit corporations to practice engineering within the state.

That the New York state society now seeks considered action on issues raised by these two attempts to amend the state's license law for engineers is evident in its recent appointment of a committee to make a thorough restudy of that law. This committee is headed by James F. Fairman, a past president and a trustee of the state society, who, as a past president of the American Institute of Electrical Engineers, has participated actively in the affairs of EJC.

ALL THE INCIDENTS that brought about the present state of tension now are water over the dam. Others need not arise if statesmanship is applied to finding mutually satisfactory solutions to the current intersociety problems. There is much to be said in favor of having the initiative in seeking such solutions come from Engineers Joint Council.



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